This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

Usage guidelines

Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

We also ask that you:

+ *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.

+ *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.

+ *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.

+ *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

About Google Book Search

Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at `http://books.google.com/`

No.

BOSTON
MEDICAL LIBRARY
ASSOCIATION,
19 BOYLSTON PLACE.

THE

NEW YORK

DENTAL JOURNAL.

EDITED BY

FRANK H. NORTON & GEO. H. PERINE.

VOLS. I–II.

1858–9.

BOSTON MEDICAL
AUG 11 1891
LIBRARY ASS'N.

NEW YORK:
GEO. H. PERINE, PUBLISHER AND PROPRIETOR,
OFFICE, No. 640 BROADWAY.
LONDON: TRÜBNER & CO.
1859.

CATALOGUED
AUG 11 1891
E. H. B.

Index to New York Dental Journal.

VOLS. I—II, 1858-59.

NOTE.—As a discrepancy owing to an error of our former printer occurs in the paging of these volumes, we shall designate all the pages for July and October, 1858, by the letter (*a*,) and all following by the letter (*b*.) As, 1 *a*, 150 *b*.

We furnish an index for the first six numbers, with title page; and would advise our subscribers to bind those numbers in one volume; hereafter we shall publish an index and title page at the end of every four numbers, beginning with January and ending with October.—EDS.

Allen, Dr. John. Cheap Dentistry and its Tendencies . . 156*b*
American Dental Convention. 101*a*, 21*b*, 225*b*
Anæsthetics 44*a*
Art in Dentistry. By J. C. B 208*b*
Bibliotheca Odontalogica 49*a*, 87*a*, 85*b*, 81*b*, 133*b*
Books Received 64*a*
Case of "Denuding of the Teeth." 220*b*
Castle, A. C., M. D. Notes for a Memoir on the Pathology of Dento-Neuralgia 135*b*
Cheap Advertising Dentists 187*a*
Clark, F. H. Adjustment of Clasps 100*a*
Cowen, Dr. A. B. Salivary Calculus, or Tartar 224*b*
Crane, H. A few Practical Hints to Parents 167*b*
Crowell, John M. Improvement in Teeth for Continuous Gum Work, 34*b*
Dalrymple, W. Cases of Irregularity 41*b*, 121*b*
Dental Anomalies 142*b*
" Periodicals 63*a*, 187*a*, 128*b*
" State of the British Army and Navy 98*a*
Dentists as Inventors. By J. C. B. 189*b*
Dieffenbach, Geo. Amber Bases 221*b*
Dowden, C. Saleratus and the Teeth 70*a*
Eccleston, C. H. On Teeth and Pivots 96*a*
Editorials and Items . . . 64*a*, 132*a*, 136*a*, 59*b*, 124*b*, 179*b*, 248*b*
Filling Teeth. By X. Y. Z., Montreal, C. E. 220*b*
Fox, Joseph, M. R. C. S. Sketch of his Life 5*b*
Franklin, Dr. B. W. Continuous Gum Work 33*a*
" " Improvements in Artificial Dentures, . . . 16*b*
" " A National Association of Dentists 172*b*
" " Dental Associations 206*b*
" " Expansion of Plaster of Paris 217*b*
Glance at the History and Progress of Dentistry from the Earliest Ages to the Present Time 4*a*, 1*b*, 78*b*, 181*b*
Hannover, Adolph. On the Development and Structure of the Teeth of Mammifera 46*b*, 108*b*
Hawes' Duct Compressor 210*b*

Hunter, John. Life of 8a
Hydrostatic Blow-Pipe 87b
Indiana State Dental Convention 136a, 83b
Kingsley, N. W. Irregularity of the Teeth 81a
" " On the Treatment of Particular Classes of Irregularities, 117b
Letter from Buenos Ayres. By W. S. F., M.D. 92a
London Dental Associations and their Origin 88b
Michigan Dental Association 61a, 63b
McQuellen, J. H. Introductory Address before the Penn. Dental College, 67b
Miss. Valley Association of Dental Surgeons 62b
New York Dental Association. Minutes and Discussions, . 51a, 129a, 135a
" State Dental Association. Meeting of Officers, Sept. 26 and Oct. 6, 1859 . . . . 247b
New York State Dental Convention. Minutes of a Meeting held Sept. 6, 1859, in New York 244b
North Carolina State Dental Society 63a
Northern Ohio Dental Convention 61a, 63a
Pennsylvania Association of Dental Surgeons 127b
Perine, G. H. Filling Teeth 91a
" " Pivot-splitting Forceps 135a
Prefatory 1a
Principles and Practice of Dental Surgery 20a
Putnam C. S. Gutta Percha Impressions for Partial Sets . . . 50a
" " Artificial Dentistry. The Vulcanite Base . . 165b
Quartz Filling 136a
Report of a Meeting of Dentists held in New York, June 25, 1859 . 175b
Royse, T. C. The use of Pure Tin to Solder Teeth temporarily and permanently to Plates, and as Load to Lower Jaw Settings . . 158b
Salter, James A. On certain Appearances occurring in Dentine, dependent on its Mode of Calcification 146b
St. Louis Dental Society 62a
Smith, Dr. B. F., New Orleans. Masticators—Narrow Plates—Clasps, 204b
Storer, Horatio R., M. D. Submucous Injection as a Cure for the Toothache of Pregnancy 201b
Thompson, C. A. Case of Lateral Pressure of the Wisdom Teeth . 174b
Tomes, John. On certain conditions of the Dental Tissues . . 7b
" " Observations on the Structure of the Enamel . . 18b
Tremain, Dr. S. F., Rome, N. Y. Contraction in consequence of a Scrofulous Affection 219b
Universal Fee Bill 89a
Vulcanite for Dental Plates and Gums, ... 171b
Wescott, Prof. A. How the Teeth are destroyed 69a
" " Letter to the New York State Dental Convention . 193b
Western Dental Society 61a, 62a, 182a
"Why I am Disgusted with the Dental Profession." By Dr. Joe Stackpole, 211b

2123

THE
New-York
DENTAL JOURNAL.

JULY, 1858.

PREFATORY.

In presenting to the Dental Profession the first number of the "NEW YORK DENTAL JOURNAL," we desire to say a few words explanatory of our views and aims, and to lay before our readers our intended course, more fully and clearly than we could comprise within our circular. An interval of some length having elapsed since the publication of any Dental Periodical in New York; and it being obvious to us that such a Periodical was eminently required at the present time by the profession of our immediate vicinity, we determined to undertake the task. We did not however blind ourselves to the fact that there already exist a number of Dental Periodicals, we only said, "we will enter upon a new course—take a different standard," and relying upon the intention we have spread our wings and leaped forward into the atmosphere of public opinion.

It is our opinion that the Dental Journalist who rightly pursues his profession, should keep before him two rules to govern his line of conduct as a publisher; first,—to place before his readers an ample and correct resumé of the progress of the profession in the present; second,—to endeavor as far as in his power lies, to acquaint his readers with all that has transpired in the *past*, which is calculated to interest and instruct the Dentist, and which may not be generally known. The first of these rules has been generally followed by the Dental Periodicals of this country, the second has been ignored; we propose to be guided by both. The present number in its arrangement therefore, may be taken as an index to our intentions in the future. Our classification includes *first* the HISTORICAL. The little that has been published in a collected form relative to the History of Dentistry, leaves us a wide field for future operations, and careful research which we shall not fail to glean thoroughly. *Second*, the HISTORICAL is properly followed by the BIOGRAPHICAL. In this division we shall be guided by no absolute rule, chronological or otherwise, but shall make our selection of subjects as they may present themselves to us, hoping to furnish in time, carefully written lives of all those who have added permanent and valuable information to the knowledge of the Profession. *Third*, the BIBLIOGRAPHICAL ; this department we cannot expect to make particularly interesting, but we hope to make it useful. Every Dentist should be thoroughly acquainted with the literature of his profession, and in presenting a careful and complete list of all the works which have been published upon Dentistry, with short notices of their authors, we think we are performing a labor tending towards much good, although laborious and unsatisfactory to the compiler; this portion of our Journal will not, however, occupy much room, and those who do not care for the subject can readily skip it, as it is intended more for reference than present reading. Besides the articles above named, we shall lay before our readers selections and translations from the principal Dental Periodicals the world over. We shall also be happy to receive communications from the

Profession on all subjects interesting to that body, claiming the right of selection, and publishing the name of the communicator when desired. A portion of the JOURNAL will also be reserved for short miscellaneous articles relating in any way to Dentistry, remarkable cases of early Dentition, Dental Wit, and such other light matter as we can cut from newspapers or become acquainted with personally. Finally, we propose to take *completeness* as our end in view, and hope to make the "DENTAL JOURNAL" a standard authority both here and abroad. We would also solicit the patronage of the profession, either by subscriptions, communications, advertisements or kind words; all will be gratefully received; and here we take the opportunity of thanking those who have so liberally come forward at the outset to aid our undertaking, and assure them that we shall endeavor not to disappoint their legitimate expectations. For terms, rates of advertising and other information we refer our readers to the last page of our cover. And in conclusion, let those who think we promise more than we can perform within the limits we have set ourselves, suspend their decision until we shall have established ourselves firmly, and shall have time to fulfil our promises, if we have the ability and inclination; we think the latter will not be found wanting.

A GLANCE AT THE HISTORY AND PROGRESS OF DENTAL SCIENCE, FROM THE EARLIEST AGES TO THE PRESENT TIME.

To write a history is always a tedious, laborious, and often a thankless task; to write the history of a science like Dentistry, which we may say originated almost at the cradle of the human race, is especially laborious and tedious, but we hope will not be thankless. In endeavoring to obtain some insight into the past history of Dentistry we could not avoid observing how little really exists in compact form calculated to aid us in our research; and it is this difficulty on our part which appeals to us to endeavor as far as possible, and as far as can be compassed within the limits of our Journal, to fill this void. We have reason to believe after careful search that there really exists no complete history of Dentistry to a late period in the form of a separate publication; and here in America, where Dentistry has advanced itself to a higher position than in any other part of the world, here where are found the most prolific writers opon almost any subject, we have found less matter concerning the science than among either the German or French authors. And this fact which would not appear strange in connection with almost any other subject, for we should take into consideration the youth of our country in all that relates to literature, and especially to those works intended for reference, does appear strange when we reflect that Americans have made Dentistry more of a speciality than any other nation, have paid more attention to its every branch, and have finally become acknowledged as the best practitioners of the world. One would suppose then that those interested in the profession would have sought to keep some record of its progress before all trace of it should have been blotted out, and that abler hands than ours would have devoted their pens to chronicling its history. Observing the necessity, however, for some such work, and having perhaps greater facilities for research than many others, we shall from time to time place before our readers such facts as we can collect, and in such convenient and readable shape, as we can best put them.

We have said that the origin of Denistry can be referred to the cradle of the human race.

Man, ever since the fall, has been subject to disease, and that necessity which has ever been the mother of invention, must have early taught him to use some means for its alleviation or cure; rough and uncouth perhaps, but still in a measure answering his purpose. Thus we find ancient writers referring to the practice of Dentistry, as being coeval with the birth of medicine. In the first period of existence when man afflicted by disease, discovered that the means for cure lay around him in profusion, in the herbs and plants that glistened in their fresh green beauty under the sunlight, he divided the pains and sickness that affected different organs and members of the body into different classes, not knowing that many disorders perhaps originated in the same locality. And thus men began to study the simple *Meteria Medica* that lay spread around them, and each one devoted his time to one class of disease, having its existence in one portion of the body. Thus there sprung up Oculists, and Aurists, and thus Dentists. But inasmuch as the teeth were not so subject to affection as other organs, the Dentists were neither so plenty in those days, nor so elevated in repute, as since; and as the means for curing diseases of the teeth were far more limited than those which other physicians could use in their departments, indeed as they knew little beyond the manner of extracting teeth, and that harshly and painfully, we may imagine that they could not be otherwise than unpopular. Men did not like to have a useful and ornamental member of their bodies torn rudely from its socket, and though they admitted its necessity, since no means for cure existed, still they could not feel grateful to the operator. Thus Dentistry languished and progressed little until later. It is not to be supposed however that the practitioners of those days, recommended the extraction of teeth in all cases of pain. Indeed we are informed by contemporary writers that the most stringent rules were established in relation to this matter, and that in no case was extraction resorted to, except where an absolute and apparent necessity existed. Many Dentists refused to draw teeth unless they were so loosened that the operation could be performed with the fingers, when that was impossible, they loosened the tooth by moving it backwards and forwards in its socket until it could be extracted with ease, thus in their ignorance rendering the operation much more painful and even dangerous than forcible and sudden extraction would have been. The instruments of the time appear to have been clumsy and illy fitted to the delicate labor they had to perform. Among the strange frescoes and bas-reliefs found at Thebes and Memphis, are many representing the daily labors, the trades and professions of the ancient Egyptians; one of these, a copy of which we have seen, portrays a dentist operating upon a patient; in this painting we noticed especially the size and primitive appearance of the instrument, (the forceps), and also the expression of deep pain noticeable in every limb as well as in the features of the person undergoing the operation. Although we have said the knowledge of dental science cannot be considered to have greatly advanced among the Egyptians, still there are evidences existing which justify us in giving them credit for a far greater degree of skill than we should suppose could have existed at that early period. It is stated that some of the mummies which have been exhumed from the ruins of ancient Egypt, have presented palpable evidence of having their teeth filled with gold and various other substances. We do not however think that implicit reliance should be placed upon the statement that, because these bodies were found with gold and aromatic preparations in the teeth, it follows that filling teeth to preserve them was customary in *life*. The object of the Egyptians in embalming bodies was evidently to arrest decay, and as far as possible to preserve the existing appearance of the corpse. With this end in view, they would naturally use particular care with such members as had already commenced to decay. This appears to us a feasible and probable view of the matter, and we lean towards it the rather that none of the other medicinal operations of the Egyptians are of a nature to induce us to believe that they were far enough advanced in science to undertake the filling of teeth during the vitality of the body. This belief does not however prevent us from giving them their due credit, for knowledge of the chemical properties of the substances they used, a knowledge, which in perfection at least, is now reckoned among the lost arts. But another explanation of the reason of the Egyptians for using gold in the teeth, exists in the well known fact that this metal is constantly discovered in mummies, in various forms, and applied to various uses. Thus have been found gold plates in the mouth and upon various parts of the body, and gilding the organs was a favorite mode of ornamentation, in the embalming of exalted personages. But the general practice of Dentistry does not appear to have been necessitated in those days, by the condition of the teeth; for certain it is that in the mummies which have been exhumed by the many explorers of those buried cities of the dead, many evidences exist showing the teeth to have been perfectly sound, untouched by disease at the period of death. It is unfortunate that we are thus obliged to rely upon inference for so much of the little knowledge we can gain concerning the state of the science in antiquity, but as we obtain our information principally from the works of Herodotus, who left but little concerning the subject, this is the only data we have. The discoveries which have been made in Egypt have, as we have stated, aided us materially, and it is to the explorations of Belzoni, Wilkinson and others that we owe our few items upon Dentistry among the Egyptians. We shall continue the subject in our second number.

LIFE OF JOHN HUNTER, F. R. S.

In selecting John Hunter as our first subject for biographical notice in the "Dental Journal," we have been guided rather by our respect for him as a man of undoubted genius, and of unfailing perseverance in the search after truth, than as one who by his own labors added greatly to the stock of information upon Dental Science. However, his work upon the teeth, though crude and erroneous in many parts, may yet be considered to have opened a world to our sight from which have since been brought rich stores of Knowledge; and although faulty in many cases in his reasoning, and incorrect in his deductions, Hunter will ever be considered as the pioneer of modern Dental Science.

John Hunter was born at a small estate belonging to his family, and situated about eight miles from Glasgow, Scotland, on the 14th February, 1728. His father was a farmer possessed of some little property, two brothers, James and William, followed the profession of medicine, the latter of whom became noted as an Anatomist, and by unwearied efforts succeeded at length in founding an Anatomical School in London. To this School in 1748 went John Hunter, engaged by his brother to assist in the dissecting room. Here the future master made his first efforts in Anatomy, and was so successful as to receive the praise of his brother, and prophecies of future greatness. He continued to progress so rapidly, that a year saw him established as an under teacher, and guiding the students in their labors. About this period young Hunter commenced the study of Surgery with the celebrated Cheselden, then reputed one of the best Surgeons either in England or on the Continent. With this distinguished man he advanced rapidly in scientific knowledge, and already began to shadow forth the great abilities which displayed themselves in his later years. But although Hunter entered with eagerness into the studies and practice necessary to complete his knowledge of the profession he had adopted, he did not by any means avoid the pleasures and enjoyments usually followed by young men. Fond of company and the delights of the table, he is said to have thrown himself into life with that same energy which characterized his every action. A few years were thus passed in dissipation, his position, for he had charge of furnishing subjects for dissection to his brother's school, was such as would naturally place him among a class of men by no means squeamish or particular in their actions, and Jack Hunter as he was familiarly called, led the van in all their wild frolics; a taste however for literature, and especially the drama, led him often to places of more elevated and sensible amusement, and the position of his brothers, then in the first society of London, shielded him from any contamination likely to do him great or lasting injury. In 1751 Hunter entered as a Surgeon's pupil at St. Bartholomew's, under Pott, then rapidly obtaining a high position in the profession. From the changes which Pott sought to make in the practice of Surgery, Hunter doubtless learned much to aid him thereafter.

In 1753 Hunter entered as Gentleman Commoner at St. Mary's, Oxford, but the following year we find him again in London, seeking for employment at the Hospitals, and soon entered as surgeon's pupil at St. George's. Here during the summer he devoted himself to the casual practice which presented itself, and in the winter attended more particularly to Anatomy in the dissecting-room. At this period a professional occurence gave rise to a dispute which commenced twenty-five years later between John Hunter and his brother William, and lasted until the death of the latter. However during this year (1754) Hunter became a partner of his brother in his lectures, and though not fitted for a lecturer himself, he yet frequently occupied the position. At this period, master minds all over Europe, were directing their attention and their labor towards Anatomical Science, and among the many discoverers of the day, Hunter soon made himself known and appreciated. Often, however, by that strange sympathy which especially in science, causes the discovery of the same facts at the same time by different men, Hunter was disputed in his assertions, or himself disputed others, indeed cotemporary accounts lead us to suppose that he was in no wise backward in urging his claims upon public notice, or in denying the rights of others where he thought they infringed upon his own. Being, however, little skilled in literature, or the art of argument, it was tacitly agreed between them that John should make the discoveries while William the scholar, should support them with his pen. We thus soon find him engaged in a controversy with his old master Dr. Pott, whom Hunter accused of having stolen from himself and his brother one of their new discoveries. But the constant and laborious exertion which had characterized the progress of Hunter for the past ten years, had made rapid inroads upon his health, and in 1759 he was attacked by inflammation of the lungs, and was advised to leave London for a change of climate. He therefore applied for an appointment in the army, and received that of Staff Surgeon. In this capacity he sailed from England in 1761, and obtained his first practice on gun shot wounds at the Siege of Belle-Isle, he was soon after ordered with the fleet to the Peninsula, where he remained on active duty until the end of the year. During this season of novel and active labor, Hunter did not cease to apply himself to congenial studies, and several new discoveries in physiology were made at this time, although not published to the world until long after. It has been stated by some of the enemies of Hunter, that while in the Army he endeavored to induce quarrels and discord among his colleagues, this accusation does not, however, rest upon sufficient foundation to be believed. In 1763 upon the proclamation of Peace, Hunter returned home with the Army.

During his absence abroad, the position he had filled with his brother William, had been given to another, and Hunter on his return found himself alone, and necessitated to rely entirely upon his own resources for future livelihood. And we have reason to suppose that this change in his affairs, although serious, was not distasteful to him, for of late years his conection with his brother had not been altogether a pleasant one, and it was probably necessity upon both sides which had held them so long together, necessity on the part of William for that Anatomical knowledge so far exceeding his own, and on that of John, for the means to live. However this may be, we find him now established in London and seeking to obtain that reputation and practice which would enable him to discharge his own moderate expenses of life, and add to his stock of Anatomical knowledge, already advancing with rapid strides until it was approaching the greatest scientific minds of the age.

But the success which he needed, was only to follow many years of laborious and persevering exertion, many years of dispute and controversy, and this was owing perhaps entirely to the intrinsic peculiarities of Hunter's disposition. A great mind always in action thinks seldom of those little amenities of life, which so often add as much to the success of a man in this world, as to his popularity; socially speaking, Hunter was not a pleasant man to be acquainted with, rough, almost boorish in his manners, excitable in his temperament, and tenacious of everything which could reflect credit on himself, he had now to enter the lists against such men as Potts, Bromfield, Hawkins, Sharp and Warner, men distinguished as theoretically and practically the greatest surgeons of the day, and not less noted for their affability of manners and gentlemanliness. Another obstacle against which Hunter had to contend was lack of means, he had no income except his half-pay, and although moderate in expenditure as far as personal comforts were concerned, he was lavish to profuseness when his beloved science came in question. To the collection and preparation of Anatomical Specimens, the elucidation of doubtful questions, and in every manner to advance the true usefulness and worth of science, Hunter devoted his time, his energies and his money. To increase his income he established a school of anatomy and operative surgery, where for many years he delivered lectures upon those subjects; he was not however very successful in this undertaking, the number of his pupils never rising above twenty. Among other means of which he availed himself to assure the increase of his collection, he gained possession by permission of all animals belonging to the various zoological collections in the country, that should die; and in return would often purchase rare animals and grant the exhibitors a life-interest while he claimed the body when dead. At this period we have reason to believe that Hunter determined upon that grand course of study, the result of which should be to change the whole Science of Anatomy and Surgery. Conceiving that it was necessary for him who would minister to the wants of the body in disease, to rightly understand its state in health, and that this knowledge could not be reached except by comparison of the organs, members and powers of man with those of animals and even plants, he commenced a collection of living subjects for examination, comprising animals from every quarter of the globe, plants of all varieties, and even numbering among them the very insects, indigenous and exotic, and whose little lives he studied with the same unfailing interest, the same earnest motive that he bestowed on man himself. With these intentions, Hunter purchased a small lot of land about two miles from London, and although illy able to afford the expense, he erected there a building in which to pursue his investigations, and where he deposited each new specimen. Here in his leisure hours Hunter came to study nature, here was his only pleasure, and in watching the action of nature in all these her children, he found ample reward for the trouble and annoyances which elsewhere met each effort to advance in his profession. But the time was approaching when Hunter should commence that rise which so soon elevated him to the head of his class, and as an evidence of the reputation he was acquiring, we find him elected in 1767 a Fellow of the Royal Society, although his brother William was not elected to that body until sometime after. An accident which occurred to Hunter about this time, the rupture of one of the tendons of his leg while dancing gave him an opportunity of experimenting on himself, an occasion of which he did not fail to avail himself,and the result was a new theory concerning the process of reünion of divided tendons. In 1768 although actively opposed, Hunter was elected Surgeon of St. George's Hospital, and was soon after chosen a member of the Corporation of Surgeons.

These appointments were the means of indirectly increasing his income, by enabling him to obtain pupils among the young men who visited London for the purpose of completing their medical education, and from each of whom Hunter received a fee of five hundred guineas.

Among these young men we find the names of Dr. Jenner, Mr. Guy, and Sir Everard Home; men who afterwards became themselves distinguished as Anatomists and Surgeons. The pleasant relations which continued to exist between Hunter and his pupils through life, are an evidence of the regard in which he was held by those who really knew him. In 1771, Hunter published the first part of his Treatise on the Teeth, containing the natural history of those organs in a healthy state; in 1778 appeared the second part, treating of their disease. This work was the first which not only comprised full and complete views of the anatomy of the teeth, but also entered into their physiology and pathology to a greater degree, and with sounder judgment and more accurate observation, than any previous. In the constant improvements and discoveries in Dental Science which have been made since the publication of Hunter's work, many errors have of course been found, and its usefulness in its original form necessarily lessened; but although many improvements have been made, and many new applications discovered in the steam power, yet Watt is still considered the discoverer of the expansive power of that agent. Thus it should be with Hunter; when it is only within a few years that Dental Science has been considered worthy of separate educational institutions; when until as lately, few men of any scientific knowledge or reputation, would adopt it as a profession, when even now it is in its infancy; we can appreciate the efforts of John Hunter nearly a century ago, and can properly respect his regard for every member and every organ in the great system of nature which induced him to devote his first labors to the discovery and explanation of all the properties of those despised but important organs. In July, 1771, Hunter having now established himself in his profession on apparently a firm basis, was united to Miss Home, sister of Sir Everard Home, a lady to whom he had been engaged for several years. Mrs. Hunter is described as handsome, witty, gay, and somewhat of a *bas bleu;* they appear, however, to have agreed well together, and to have experienced much happiness in each others society. At this period Hunter, at the request of the President of the Royal Society, contributed his first paper to the Philosophical Transactions of that body, on *post mortem* digestion; having made many experiments upon the power and properties of the gastric juice, he wrote in favor of this new theory, and although its truth has been combated by many distinguished anatomists, late experiments have proved the strength of his position. In the spring of 1779 Hunter was attacked with a spasm, affecting the heart, and doubtless the first inroad of the disease of which he died. It is stated by those who attended him during this attack, that it involved a complete cessation of the action of the heart, lasting for three-quarters of an hour, while respiration continued. A second paper by Hunter, before the Royal Society, comprised an examination of the electrical powers of the torpedo, entered into with a view of discovering their seat, much interest being at this period felt in electricity. In the autumn, Hunter delivered a course of lectures upon Surgery, before the pupils of St. George's Hospital. As a lecturer, Hunter was never popular, and apparently had no natural gifts for public speaking; his language was terse and forcible, but inelegant and coarse, while his delivery was unpleasant; his dislike to thus facing an audience amounted to a disease, and he was obliged to quiet his nerves with laudanum when about to appear. Yet notwithstanding these difficulties, he continued to lecture at intervals throughout his life, and always surrounded himself on these occasions with the most distinguished scientific men of his time; thus Astley Cooper, Abernethy, Chevalier, Macartney, and others, were his pupils. In 1775, Hunter conceived the idea of establishing a school of Natural History, and even made proposals to Jenner with this intention; the scheme, however, was given up. In January, 1776, Hunter was appointed Surgeon Extraordinary to the King; the following year he experienced a violent attack of vertigo, and on his partial recovery gave up his professional duties for a time, and retired to the sea-side to recuperate. At about this period, two papers read by Hunter before the Royal Society, attracted considerable attention, and are among the most valuable of his contributions to that body; thay were respectively upon the "Best Means for Restoring Drowned Persons," and on "The Heat of Animals and Vegetables." He was also busily engaged in various experiments upon the nature and habits of various animals, and his letters, especially those to Jenner, with whom he maintained a friendly correspondence lasting for many years, are full of requests concerning the habits of hedgehogs, eels, and various other classes of animated nature. In 1780 occurred the difficulty between John Hunter and his brother William, caused by the claims put forth by both for the credit of a discovery made some years before, and in which both had probably some interest; this controversy was carried on with considerable bitterness, and the estrangement which ensued, terminated only at the death-bed of William Hunter. From this time until 1784, several papers of value were read by Mr. Hunter before the Royal Society, and these, with the conclusion of his work upon the teeth, in 1778, appear to comprise all his literary labors during those years. In 1785, Hunter erected a new building for a Museum, more convenient for his purpose, and there deposited his large collection, not ceasing, however, his constant endeavors to increase it in magnitude and value.

In 1786 Hunter was appointed Deputy Surgeon General to the Army, and during the same year published his works upon the Venereal Disease and Animal Economy, the latter being a collection of his papers in the Philosophical Transactions. As an evidence of the eagerness with which he sought to obtain all rare specimens, it is related that O'Byrne the celebrated Irish giant dying in 1783, Hunter bribed the watchers round his coffin at an expense of £500, to permit his men to kidnap the body; this they did, and at the dead of night, it was conveyed to the dissecting room. This forms one of the finest skeletons in the Hunterian Museum. In 1788 the death of Pott, left Hunter the undisputed reputation of being the first Surgeon of England, a position to which he had arrived solely by the unceasing energy and activity of his own nature; having much to contend against in his own want of education, he had started at the foot of the ladder, and by unfailing perseverance, at last reached its summit. His health which for many years had been precarious, at this time began to fail rapidly, the attacks to which he had been subject becoming more frequent and severe. A peculiarity of his disease was the alarming effect upon his system, of any sudden fit of passion, or excitement of any kind. The last few years of his life appear to have been characterized by constant bickering and controversy, and on the 16th of October 1793, while attending a meeting of the Governors of St. George's Hospital, a sudden contradiction brought on such a state of excitement that he expired in a few moments in the arms of one of the physicians of the Hospital, having passed a life of sixty four years, in constant labor in the cause of Science.

We have thus rapidly glanced over the principal events in the life of one to whom Science has owed so much. A few words concerning the result of one of the great objects which he followed so assiduously from his first entrance into the world, until his death. We have throughout this notice referred frequently to the vast collection of specimens and preparations illustrating his favorite science, which Hunter had brought together from all parts of the world, lavishing money, time and labor upon it without once swerving from his purpose. In his will, Hunter directed that his Museum should be offered to the British Government on fair terms and in the event of their rejecting the offer, it should be sold in whatever manner should best satisfy his executors. Following this desire of the deceased, the collection was offered for £15,000 to the government. It was not, however, until 1796, and after the most constant and earnest efforts of the friends of Hunter, that the House of Commons was induced to vote the stipulated sum. Hunter himself estimated the cost of his collection at upwards of £60,000 and the most eminent scientific men of the day, placed its value at a much higher sum than was demanded for it. In 1799 the guardianship of the Hunterian Museum having been refused by the College of Physicians, was accepted by the Corporation of Surgeons, under whose care it has since remained. The collection, however, has been vastly improved and extended since its first purchase, its cost for maintaining and increasing, having averaged £3000 per annum. The Huntarian Museum, besides containing a superb collection of preparations designed to illustrate the laws of nature, also comprises many curious specimens of apparent departures from those laws, including monsters, malformations, &c. Its collection of fossils, shells, zoophytes and insects, is also large and very complete; besides these are specimens in Natural History, stuffed or preserved in spirits, and finally a collection of drawings, oil paintings and casts, completes a Museum unrivalled in the world. In making this collection there appear to have existed in Hunter's mind two intentions, first to leave behind him one great work which should give to the world undying evidence of the beauty and wealth of creation, and of the value of science, which at once discovers, stories and explains all the facts necessary for the elucidation of her mysteries. And secondly to make amends to his family, as it were, for the lavish expenditure of his means upon this object during his life, by leaving what should prove to them a subsistence after his death. Successful in both these wishes Hunter could die, and leave also the assurance that although not perfect in character, or always just and right in his actions, yet the great bequest he had left the human race, the life spent in the advancement of human welfare, should go farther toward insuring him a glorious hereafter than the useless nonentity of many a more correct life. A few more words concerning the contributions of John Hunter toward the improvement and progress of Dental Science and we have done. At the period when Hunter wrote his work upon the Structure and Natural History of the Human Teeth, Dentistry as a Science was at its lowest ebb; confided entirely to ignorant mechanics, and knavish quacks, in its practice, it was ignored by the Scientific, and crept through a base existence, living only by the absolute necessity for its continuance in some form or another. Of the physiology—of the nature of these organs, nothing was known. Hunter was the only man who could see and he but dimly, that there is nothing in nature but is worthy of study, and that even those despised members of our organization, were needed to advance the progress of the great chain of creation. With his characteristic energy, it was sufficient for Hunter to know that here was opportunity for new discoveries, certainly here was labor in unploughed fields; and resolute to seek out, having no advantages of the experience of others to go by, for he was the *alpha*, he plunged headlong into the sea of uncertainty, guided only by his just intentions and his correct judgment. True he erred perhaps in this work more than in any other from his hands, but naturally; the true light to view this labor, is in the road which it opened for others. Later minds, Fox, Blake and others hewed the passage still wider, and cleared away obstructions till then hidden even from the piercing sight of their great predecessor, to them all honor, but if we give them credit justly due, of having properly worked the mine, let us not forget that it was John Hunter the self-made man, who opened the vein.

PRINCIPLES AND PRACTICE OF DENTAL SURGERY.

REVIEWS.

THE QUARTERLY JOURNAL OF DENTAL SCIENCE. *London.*

L'ART DENTAIRE, REVUE MENSUELLE DE LA CHIRURGIE ET LA PROTHESE DENTAIRE. *Paris.*

THE AMERICAN JOURNAL OF DENTAL SCIENCE. Edited by Chapin A. Harris and Alfred Blandy, M. D. and D. D. S.

THE PRINCIPLES AND PRACTICE OF DENTAL SURGERY. By Chapin A. Harris, M. D., D. D. S. Fifth edition.

Selected from the "Edinburgh Medical Journal," for February, 1858.

[We wish to call especial attention to the following admirably written article, and would recommend its perusal to all who take an interest in the Science and its Progress.—Eds.]

The teaching and practice of Dental Surgery has of late attracted a somewhat unusual amount of attention, and apparently begins to have accorded to it that share of consideration which its importance and its present circumstances really demand. At various periods within the last few months, the columns of our different medical periodicals have, from time to time, been occupied with the subject, more especially as regards the education and qualifications which would appear desirable in those numerous individuals who adopt this branch as a special and exclusive calling.

A deficiency of some systematic mode of instruction, and a want of any definite qualifications among those undertaking the treatment of Dental disease, have of late been pointed out, and different proposals advanced with the view of improving matters in this direction ; and it is availing ourselves of the opportunity thus presented, that we take occasion to offer a few remarks, first, and very shortly, in reference to some of the works published in connection with Dentistry, constituting, as they do, an important element in the teaching of that department of Surgery ; and, secondly, in reference to the education and qualifications which seem desirable in its practitioners. Books on Dental Surgery appear to be the only special means of instruction, provided, in any thing like a general manner for practitioners in this branch ; and the few we have selected seem typical, each in its own way, of the different styles of literature thus offered on the subject. They may be divided into two great classes —viz., first, those which form elementary and systematic treatises on the subject ; and, secondly, such as take the periodical form, and constitute a record of those practical observations and improvements, or modifications in the art, which are constantly occuring as the results of invention or experience. Both of these forms may be again subdivided into what treats of the surgical, and what of the mechanical, section of the subject ; and the specimens we have cited, of such publications, are as fair and praiseworthy as they are useful and comprehensive examples.

Of the two classes, however, the periodicals seem likely to be more immediately valuable and beneficial to Dentistry as a special art. Those belonging to the other class, that is elementary treatise on the subject, are more liable to abuse, these, it should be recollected, are merely calculated to serve like other text-books, for suggesting what is necessary to be learned by the student, but are by no means, as seems to be too frequently supposed, sufficient to convey all the information required. Without some much more extended teaching than this, Dental Surgery and Dental Anatomy, like mechanical Dentistry, may be studied any length of time with little if any benefit; knowledge thus acquired is fraught with error, it may be danger, and is always imperfect, because superficial. Books, however elaborately compiled or however fully illustrated, will never render a man proficient in this or any other branch of medicine or surgery. Indeed, it is by no means the want of books, or the want of valuable information contained in them, on the subject of Dental surgery, that constitutes the defect in the teaching of practitioners in this branch; but the want of some further instruction, whereby what is treated of in such works may be seen and examined, and more precise information and practical knowledge regarding it be in this way acquired.

In reviewing the works, therefore, on Dental Surgery, especially those intended as elementary or educational in their nature, a more critical notice of the works themselves is not all that seems required in this state of matters; but rather a few general remarks in connection with them, so comprehensive, however, as to embrace another important question, viz:, that unaccountable although obvious deficiency existing in the collateral instruction necessary for rendering the use of such works, at all fully or properly effective. The want of this additional means of instruction, and, indeed, the fact of its being scarcely recognized as necessary for, now-a-days, commencing practice as a Dentist, has been to a considerable extent the cause of such books being, in a great measure, lost to members of that profession. Such treatises are felt to require something to render them appreciable, without which they appear on many points uninteresting or useless, and thus become neglected or altogether forgotten.

Considering these circumstances then, it may be excusable here to deviate somewhat from the usual tract followed in the notice of works published in connection with medical or surgical science, and briefly examine, as we have said, first, what generally is the education at present received by or required of Dental practitioners; second, what are the qualifications consequently prevailing among and recognized by them as sufficient for undertaking the treatment of Dental service; and third, what means of improving matters, in this respect, are left at our disposal. With reference to the education at present required of or received by Dentists, the fact that, owing to many obvious circumstances, Dentistry must always be considered and practiced, as a distinct and special, if not exclusive, department of surgery, exercises an important influence. As Dental Surgery, properly so called, almost unavoidably entails a certain proficiency in mechanical dentistry, so, on the other hand, mechanical dentistry is necessitated, in many instances, to combine with it the performance of certain surgical operations; and it is in this necessary combination of the two departments, that much of the difficulty has arisen, and is still found to exist. Here, perhaps, more than in any other case, the qualifications for practice have become arbitrary, and consequently, vary according to the opinion, the intelligence, and, it may be, the honesty of the practitioner; no definite criterion exists, by which the proficiency or fitness for undertaking such practice, or for assuming a so far surgical title, can be ascertained.

Accordingly, the system of education now very commonly adopted in the training of Dentists, is little more than the mere apprenticeship demanded for undertaking the mechanical part of the business; a few opportunities for extracting teeth; the acquirement of a purely empirical knowledge of some of the diseased conditions of these organs; and an equally empirical knowledge of some modes of treatment pursued in them, is perhaps added; but this may be considered as the full extent of instruction received by much the greater proportion of dental practitioners of the present day. No acquaintance with the physiology of the structures themselves; of the pathological nature of their diseases; or of the principles upon which the treatment of these diseases should be conducted or is established, seems to be considered necessary, and is, consequently, seldom or never possessed by such as merely receive this kind of instruction.

Now, it is by no means to be able merely to relieve toothache or extract a tooth, that ought to be the limits of surgical qualification possessed by dental practitioners.

Connected with the subject of Dentistry, and unavoidably interfered with by the Dentist, we have even the diseases of childhood during dentition,—which if not caused by are at least all intimately associated with this process, and the beneficial results of a more extensive acquaintance with which diseases as directly and indirectly connected with dentition, is perhaps yet only to be ascertained; we have those affections common to the teeth and mouth in after life; and what is more important still, we have their indirect evil results, in many cases so much more serious than the primary disease itself; these, and in connection with them the value of an acquaintance with the pathology and diagnosis of tumours, abscess, various forms of neuralgia, dyspepsia, etc.; all demand that instruction in these matters should be comprehended in the education of the dentist, as it becomes of the utmost importance that the detection of such diseases might, at least where the circumstances should so require it, be with safety and confidence committed to his care.

It may be thought that this is conferring undue importance on such a branch of medicine as Dental Surgery. But no sectional departments of medicine can be with safety set down as unimportant; we may isolate them from the relations they bear to the science, considered as a whole, and in that way hide ourselves and fail to recognize their worth; but, in truth, they are all links in one great chain of facts; each has its own place; and the value it possesses lies, not so much in itself, as in its connection with those other facts to which it is related; and so it is in regard to the pathology and surgery of the dental system.

As the natural result of this defective method of instruction, so generally pursued by dental practitioners, we find the amount of surgical qualifications among them to be correspondingly deficient. The very mode of education thus open to, and by many regarded as adequate for practising, in this line, is in itself an excuse, and more than an excuse, it is the reason of this want of sufficient qualifications in many who undertake the treatment of Dental disease. Those who cannot see that such education is insufficient, surely must be regarded as only thereby illustrating the danger of a little knowledge. It is exactly this mistaken view of the matter, which leads to such an amount of instruction being here so frequently considered sufficient to a right to assume the title of "Surgeon." In no case is this title more abused or more irregularly assumed, than it is by Dentists; the terms Surgeon-Accoucheur Surgeon-Oculist, Surgeon-Apothecary, invariably imply, that the possessor of any of these titles has obtained a Surgical Diploma; but to state that one half of those who assume the title of Surgeon-Dentist, do so without any such warrant at all, is to speak at least within the mark.

But apart from the benefit of an increased acquaintance with the subject before us to the practitioner himself, even the very limited extent of knowledge existing on many points in Dental Surgery, demand some improvement on other grounds. A very imperfect conception of many simple matters connected with Dental Surgery, prevails not only among Dental practitioners, but also among some otherwise fully qualified medical men. This becomes at once obvious, if we reflect how little is generally understood either of the physiology or pathology of the teeth; how much ignorance prevails regarding the mode of developement and their successive stages during Dentition, how comparatively few practitioners, notwithstanding the very familiar manner in which the subject is every day talked about, would undertake to give anything like a scientific or correct resumé, however short, of the process of Dentition, even in its healthy state; or to describe correctly its different stages during infancy and childhood; the various epochs at which its most ordinary phenomena occur; far less what the pathology of its disorders really is at all; and yet, where is the practitioner, where is the Dentist, who will not undertake its treatment from begining to end?

How many instances are met with where the anomalous nature of the diseases, to which the teeth are liable, and the modifications of treatment required in them, are known only in the most vague and imperfect manner—how many cases where even the number of teeth which should exist within the mouth, at any given age, is scarcely any better understood. While, as for the amount of pretence and quackery, [illegible]

[illegible]

may be satisfactorily ascertained by a glance at the advertising columns of most of the leading newspapers of this and almost every other country.

In thus advancing, any remarks on the position taken by Dental Surgery at the present day, we can scarcely be understood as implying anything whatever derogatory to those numerous respectable practitioners in this branch, whom an imperfect system of legislation, and the want of any imperative or even of any definitely prescribed course of instruction, may thus have placed in circumstances which might otherwise seem to be irregular, we refer to this branch of Surgery, without having received any complete Surgical education. On the contrary, we regard this proceeding on their part, in the existing state of matters, as warranted and quite justifiable; unless a better system of education is provided for Dental Practitioners than at present exists, or some regulation be enacted so as to ascertain a certain amount of fitness for this profession, no alteration or amendment in this respect can be looked for.

The general feeling of the Dental profession itself, however, is most certainly that at least some more adequate means of instruction, especially in the physiology and surgery of the teeth, would be most desirable; and there is no doubt that the superiority even of a complete Surgical education, did circumstances permit of it, is by many equally well recognized and admitted. Beneficial as any plan of conveying even a partial surgical education, especially in this branch might be, and difficult as it is to find a remedy at once sufficiently mild and yet sufficiently powerful for the present exigencies of the case, any more limited mode of education than this does not really strike at the root of the matter; and this will be more and more clearly perceived, according as a greater amount of knowledge is imparted, and discloses to a greater extent the importance of the subject.

Indeed, in most cases where any such full qualification being required in Dental Practitioners is objected to, or considered out of place, it is in the circumstances of the case, and not in the conviction of further instructions being superfluous, that the objection consists. And this feeling is quite excusable; however desirable it is that those who undertake the treatment of Dental disease should possess a surgeon's diploma, it would require time to bring a proposal of this kind into anything like general operation—and any measures, or legislative enactment, unless in no way retrospective, which might at one stroke demand such conditions of existing practitioners, would undoubtedly be oppressive, and be of a most injurious instead of a beneficial tendency. That is not to say, however, but that this, were it practicable, would be preferable and the most consistent—indeed the only legitimate method of setting matters right in this case. Those who embark in the study and practice of medicine in any form, must not each one respectively be competent for one duty, and for that one duty alone; but each man must be able and ready in the hour of danger—an hour which sometimes overtakes the simplest as well as the most formidable operations—each man must then be ready to renounce his favorite or his allotted post, and bear a hand wherever and at whatever he may be wanted.

Thus in Dental practice serious consequences, and even fatal results, occasionally follow such simple operations as are comprehended within its. sphere; and of late more than ever are there certain risks to be apprehended in the performance of such operations; since the introduction of chloroform for example, patients very naturally, and very properly, demand its administration previously to undergoing any painful remedial measures; and although this agent may quite possibly be again and again administered with impunity by the most ignorant, yet how can we be certain that all the resources of the most fully qualified medical man may not here be demanded at a moments notice?

It is, however, the creditable spirit of the age in which we live, not to inquire, as such a mode of reasoning as this would imply, how little knowledge will be sufficient for our purpose, but rather to discover how much it is possible to obtain; and it is availing ourselves of this fact, that we venture on our present remarks. Thus, time was when diseases of the eye, diseases of the ear, diseases of the skin, were no doubt recognized and treated by Physicians, well enough—as they supposed—long before such branches were made the subject of special instruction. Then, these branches also, were in all probability regarded as of far too little consequence to merit being separately studied; but as their subjects by such means became better understood, the necessity for more attention being bestowed upon them, was more and more clearly perceived. And now, with our advanced knowledge in such branches, what should we think of any one who, this day, should assert that this increased attention to such subjects had done no good: was useless and superfluous: and that no necessity existed for it? Unfortunately, however, Dental Surgery has failed to advance along with other sectional departments of medicine; its position has not even merely remained stationary; but its movements have been positively retrogade. Neglected by the general practitioner, while of almost universal and hourly occurrence, and of a nature most troublesome to patients, disease connected with the Dental system has thus naturally enough been seized upon often by the mere adventurer—has been taken out of the Surgeon's hands as a branch for which he is virtually incompetent—and is attempted to be set up as an entirely isolated profession with which legitimate surgery has no call, if it have any right, to interfere. The result has followed as we know, that while in other diseases the attention of men whose education is adequate for such a duty, is being directed to diminishing the frequency of their occurrence, rather than towards their cure,—disease of the teeth has been relinquished by, and meets with no attention from such inquirers, and prevails as much, and is understood as little as ever.

The question, then principally concerning us here is,—How are those evils to be remedied, and how is the position of Dental Surgery, as a special line of practice, to be elevated from the place it now occupies?

There seems to be no doubt that the obvious means of accomplishing such ends consists in requiring of, and providing for, practitioners in this branch, a better system of education in Surgery than at present exists. Two methods may be found for carrying this into effect, namely, first, that every one adopting the practice of Dental Surgery should be required to possess a Surgical Deploma or other equivalent qualification, and have any special education in Dentistry superadded to this. Or, second, that a limited and special course of instruction, practical as well as theoretical and elementary, in Dental Surgery, shall be afforded, and considered imperative on such as might not possess, or might not feel desirous of obtaining, a regular Diploma. Were it practicable, there is no question that the really legitimate qualifications for undertaking Surgical operations, or other treatment for Dental disease, would be the possession of some such degree as is required of other Surgical practitioners. But difficulties lie in the way of attaining this object, as we have already remarked; and some preliminary, or intermediate arrangement might perhaps require to be adopted in the first instance, and which might, in the meantime, prepare the way for the more desirable and complete being ultimately introduced.

The most likely arrangement, according to this view, seems to be that inculcated in our second proposal, namely, that some limited and special instruction in Surgery, as applicable to Dental disease, should be acquired by Dentists ; by such means a more extended knowledge on this part of the subject, whould be conferred upon those who choose to avail themselves of the advantages thus provided ; and without holding out any such inducement as that of obtaining in this manner, a Pseudo-medical Degree, or title—always a dangerous acquisition—there is little doubt that many would take advantage of such an opportunity, that much benefit would in this way be the result, and an essential service be done to those who are intending to follow out the practice of this line. But such an amount of education as this, we say, could not, of course, be expected to entitle its possessors to any thing worthy of the name of a Surgical Diploma ; such partial degrees are in every way reprehensible—being not only from their incomplete and fractional nature, inconsistent and absurd in themselves, but liable to be perverted from their original and proper intention, and to be made the means of deception—a cloak under which the work of Charlatanism might be carried on with more convenient seeming, and which might serve as some thing like a warrant for practice of a far wider extent than was ever originally contemplated in conferring them. Let those who consider it desirable or advantageous to qualify themselves as really Surgeon-Dentists, obtain a *bona fide* Surgical Diploma : let those who consider this immaterial or unnecessary, have in the meantime, at least a better opportunity than generally exists, of acquiring some elementary or epitomised notions of physiology, pathology, and treatment, as applicable to Dental diseases, rather than that error and maltreatment in Dental Practice should so much prevail. This, we say, might serve as a preliminary step to further improvement in the [illegible]. Such instruction has long been in England, and could easily be any where superadded as an optional branch to the usual course of study in all our Medical Schools; and, while it might thus be of service to such as merely wished to become somewhat conversant exclusively with this particular branch, it would at the same time afford opportunities for those who intended adopting general practice to acquire a better and more perfect knowledge of disorders connected with the teeth than is by any means generally possessed.

One of the principal objects of special lectures is that more attention may be devoted to such structures as are, in their organization, complicated and obscure, or it may be exceptional and unique; to become familiar with the healthy and morbid conditions of such organs require time to be devoted to their special study—as is the case for example with the eye and its diseases; and the peculiarities of structural and functional characters met with in the developement—the tissues—and the diseases of the Dental system in man, appear in this case to render such alteration equally necessary.

To point out any one particular course to be pursued with such objects, and with the view of carrying the suggestions into effect is not the purpose of our remarks. Their purposes are the inculcation of the great necessity existing for some improvement in the position of this branch of Surgery, the enforcement of some available and general principles by which a more satisfactory mode of instruction, along with better qualifications, might be placed within the reach of those who adopt its practice: and, in advancing them, we are only echoing the sentiments prevailing among the great mass of Dental Practitioners of the present day. That no arrangement has been made before this day, by which the practice of Dental Surgery might entail the possession of at least some Surgical qualification, exhibits the neglect with which the subject has been treated; but this is no palliation of matters, or any reason why they should any longer be left as they are; however much may be the disposition to advocate liberal views in a question of this kind, not only justice to patients, but justice to practitioners, here demands immediate reform. That the legally qualified practitioner should be considered to rank, and be recognised only in common, with any one who merely assumes a surreptitions title to practise along with him, is manifest injustice; and it here becomes the duty, no less than it is the prerogative of the different licensing bodies, to protect the rights, and so far maintain the position, of those upon whom they have conferred such right and title to practise, when these are infringed upon. But the irregularity and inconsistence involved in the present circumstances of Dental Surgery, are too clearly perceptible to require much comment; surely their improvement may be confidently looked for; and that the objects we have in view in making these remarks will, at no distant period, be favorably regarded and ultimately obtained, seems a conviction with which any one regarding the matter impartially, cannot fail to be impressed.

CONTINUOUS GUM WORK.

BY DR. B. W. FRANKLIN.

To treat of the general subject of Mechanical Dentistry would require more time than my engagements would allow, and probably occupy more space in your Journal than would be profitable. I shall, therefore, confine myself to one particular branch of mechanical Dentistry, viz : Allen's Continuous Gum Work on Platina, leaving to those who may be partial to other systems, to speak for themselves. If we were in possession of specimens of the various fixtures, and, the materials of which they were composed and used as subtitutes for, the natural teeth, for the past twenty years, they would make a rare collection of curious things ; and a comparison with our best artificial dentures of this time, would not fail to forcibly impress every one that we have made decided progress. It is not my purpose to speak of the merits or demerits of the many systems employed at this time. The profession and a discriminating public will decide upon them. Each must endure for a longer or shorter period as they serve, or fail to serve the purposes for which they are intended. The animal, vegetable and mineral kingdoms are at the command of the Dentist, and it is for him to determine which of these furnishes materials best calculated to resist the chemical action of the secretions of the mouth. Purity and strength in mastication; upon these depend (all other circumstances being equal) the health and consequent happiness of the patient.

If the simple loss of the teeth were all the Dentist was required to supply, the substitution of them would be an operation of easy accomplishment, and it would seem in too many cases that the insertion of a given number of teeth in the patient's mouth, and the "price" in the Dentist's pocket, were the only principles involved in the transaction. And hence it is that we daily meet with persons who carry in their very looks the unmistakable evidence of having been to "their Dentist." I believe there is no other vocation known among men which has given profitable employment to so many with so little uniformity in results. Doubtless, this is attributable in part to the want of a proper Dental education, and partly in consequence of the ignorance of the public in regard to what constitutes the highest perfection to which artistic Dentistry has attained. The facility offered by cheap advertising, and the disposition on the part of men in "position" to help a "friend" with their name, too often imparts character to men and "things" which, if dependent on their own merits, would fall to the ground comparatively harmless. In this connection I cannot refrain from quoting from "Harris' Principles and practice of Dental Surgery."

"But notwithstanding the triumphs of Mechanical Dentistry, and the high state of excellence to which it has arrived, there never was a time when so much injury was inflicted, and suffering occasioned by artificial teeth, as at the present, and resulting, too, from their bad construction and incorrect application. That such should be the case when there are so many scientific and skillful practitioners in every city and in many of the towns in the country, may seem strange, but the fact is nevertheless undeniable."

The truth is, heretofore there has been too little importance attached to this branch of our art. Dentists of deservedly high standing have confided their mechanical work to students and mechanical workmen, who seldom if ever see the patient and consequently can know but little of the requirements of the case. With them, the arrangement of the required number of teeth and a beautiful polish to the metal work, constitute the chief excellence of their mechanical efforts. I venture the assertion, that it requires more cultivated talent, more close observation, more taste and discriminating judgment in the selection and arrangement of artificial teeth so as to give them a natural appearance and truthful expression, with an articulation which will sustain the greatest force in mastication without displacement, and a perfect restoration of the face; in short to meet all the requirements of the case in hand and secure to the patient all the advantages of our art in its highest perfection, more experience, more time and application than is required to perfect one's-self in every other department of Dental Science. This may be denied by some, but my experience sustains this view. Our Dental journals and Dental associations and conventions treat Mechanical Dentistry as a thing of little importance. So much so that at the American Dental Convention, held in the city of New York in 1856, but one hour of the three days' session was devoted to the consideration of improvements in Mechanical Dentistry. When the time shall come that the profession will attach that importance to this department of our art that its necessities demand, there will be less cause of complaint on the part of the public, and Mechanical Dentistry will take a position among the sciences which never produce diverse results.

I will now proceed to describe my manner of manipulating continuous gum work for artificial dentures. The first thing essential to success, is a correct impression. This can only be obtained with good plaster. Impressions are taken in plaster for full and partial sets. In taking impressions for cases where teeth are remaining, a proper shaped cup is required and a wax impression is first taken. The wax is then cut away to the depth of one-eighth of an inch, or more where the plate is to rest, leaving a thin wall of wax around the teeth. The wax impression, as cut down, is filled with plaster, and a perfectly reliable plaster impression can be taken of the most difficult mouths. We varnish the impression with thin shellac varnish and when dry, oil and fill for the model. When the model is sufficiently hard, break away the impression, trim the model and mark on the outside of the alveolar ridge where we design the plate to terminate. We then build a shoulder of wax or plaster on the model up to the line indicating the boundery of the plate, for the purpose of striking or swaging the plate at right angles for a rim.

This is better than wire soldered on for the same purpose, and is less trouble. We now varnish the model and when dry, it is ready for moulding.

Pulverized soap stone added to very fine sand in the proportion of 1 to 8, thoroughly mixed together and wet with water, we find to be best adopted to this purpose. A little experience will enable the operator to determine the proper consistency of the sand. It should be just wet enough to hold together under the pressure of the hand. If the model is overhanging in the least we use "Hawes' Moulding Flask." With this flask we can mould the most difficult upper model that has ever come under our notice. We use zinc for the male and equal parts of tin and lead for the female die. The zinc should be of the best quality, and used not more than four to six times. Great care is required in melting, to avoid overheating it, as the shrinkage is greater; besides the danger of generating steam from the sand. We never allow all the zinc in the ladle to melt before being removed from the fire; this, perhaps, is the best safeguard against overheating. The zinc should be allowed to cool in the ladle, occasionally stirring the mass to prevent crystalization, and poured into the sand as cold as possible. After the die is cold we smoke the face, with the flame of an oil lamp or gas burner. Then place it in sand (face up) and allow the latter to extend up to the shoulder designed for striking the rim. We now place a ring of iron around the die, permitting the lower edge to rest on the sand, and also packing a little sand around it to prevent the metal from running under. Then pour the lead and tin, taking care that the metal strikes the sand outside of the die first, and flows over the face. When cold, we separate the die and counter die, and smoke the latter or wash it with a solution of sulphate of copper, then run fusible, type or Babit metal into it, using this die and counter die for the first breaking up of the plate.

We use the best French platina plate varying in thickness from 29 to 30 common guage.

If the bed is battered or driven back in the first swaging, we run the bed over the zinc again. We now have a fresh, sharp die and bed. With these a light blow with a hammer will complete the operation of swaging the plate in the most perfect manner. The plate is now ready for the articulation or bite. This is done by placing a rim of wax on the plate sufficient to indicate the length of the teeth required. The plate with the wax attached may then be placed in the patient's mouth and trimmed until the edge of the wax represents the length and circle that is required for the teeth. We now instruct the patient to gently close the mouth. If any one of the antagonizing teeth strike the wax before the others, we cut away the wax at the point of contact; one after the other, until all the teeth strike at the same time. Then with the hand, press the chin upwards, only sufficient to make an impression of the points of the teeth. Now remove the plate and wax, and place it in cold water for the purpose of hardening the wax. Next soften wax sufficient to take the impression of the front of the antagonizing teeth and gum.

After placing the plate and wax in the mouth again, wipe the front of the hardened wax dry, and close the mouth firmly against it. Then take the softened wax and press it against the front of the teeth and gum, and over the hardened wax, so as to unite both together.

We now have the required length of the teeth to be mounted, represented by the wax on the plate, and the impression of the length and position of the antagonizing teeth and gum in the wax last applied. The whole is now removed from the mouth, and a plaster articulating model is made. We now arrange Continuous Gum teeth to the plate on wax, and if convenient, try the plate and teeth in the mouth, making such alterations in the position of the artificial teeth as will bring them in harmony with the features, and general requirements of the case. Next, build wax on the plate over the fangs of the teeth, until the desired fullness and expression of the face is obtained. We then place the piece on paper, and mark with a pencil close to the wax all around, thus giving an outline of all the prominences. This outline we follow while applying the body. Now remove the wax from the outside of the teeth and coat them with thick shellac varnish to prevent the teeth etching while soldering. The varnish keeps the investment from coming in contact with the teeth. Next invest or cover the teeth with plaster and asbestos equal parts, sufficiently thick to hold them in their position while backing. Remove the wax from the inside, and melt a little around the teeth, with the flame of a common blow-pipe, for the purpose of holding them more firmly in the investment.

We now take scraps of Platina wide enough to reach a little more than half the distance from the centre of one tooth to the centre of the next, and bend the foot of this lining at right angles about one sixteenth of an inch, splitting the part thus bent so as the more readily to conform to the inequalities of the plate, as seen in cut A. Now smear the points of the pins in the tooth with rouge and oil, bring the backing to its proper position, and press against the colored ends of the pins. This will indicate the places where the holes are to be punched in the back. Cut the back the proper length and make an angular incision in each upper corner of it, commencing at a point near the pins and diverging towards the plate, and running about half the length of the back. Press the back to its place over the pins, and bring the angle at the foot in contact with the plate; clamp the pins and bend the angular pieces formed by the incision at the top, down against the backings, locking them together at the point crossing, and proceed in this manner with all the teeth, each back lapping on to the next all the way around the case, thus forming a continuous rim of metal as seen in cut A.

In long articulations we fit a strip of Platina below the pins resting against the backs and wide enough to extend to the angle at the foot of each lining, and then bend the corners formed by the angular incision at the upper end of the backing, over the rim or strip, as seen in cut B., thus forming a very strong continuous rim of metal of two thicknesses, adding greatly to the strength of the case when finished and also preventing the teeth changing position while backing. The backings are now to be soldered to the plate, (with pure gold,) care being taken that the pins and every part are thoroughly soldered. To prevent the gold from running on to the surface of the plate, a line or scratch cut with a knife or other sharp instrument around the base of and close to the backings will prove effectual. When cold remove the investment, saving the base or that portion under the plate, to be used when backing the body and gum. The case should now be placed in strong muriatic acid, to decompose the glass of borax, after which it should be thoroughly rinsed with water to remove the acid. We now score the plate and backings either with a sharp pointed instrument, by cutting fine lines or scratches over the surface where the body is to come in contact, or with a graver raise a succession of little points over the entire surface. Either way will answer. The last is somewhat better, but more difficult. The case is now ready for the body. At this point much might be said in regard to the different silicéous compounds in use for this work. The makers are certainly deserving of great credit for their untiring labors to overcome the many difficulties presented. The principal one heretofore experienced has been in repairing the work. This, however, is now entirely overcome, as work put up with the present materials will repair without the least trouble. In case of accident or when alterations are required after the case has been worn any length of time, we usually heat the case up slowly to a dark red heat, which burns all foreign matter from the surface. before making the required alterations or repairs. The piece will then work as pleasantly as though it had never been in the mouth.

We would advise all Dentists who are making Continuous Gum work to keep themselves in communication with the manufacturers of the materials for this work, as they will be able to get the very best in market, and have the benefit of any improvement as soon as made.

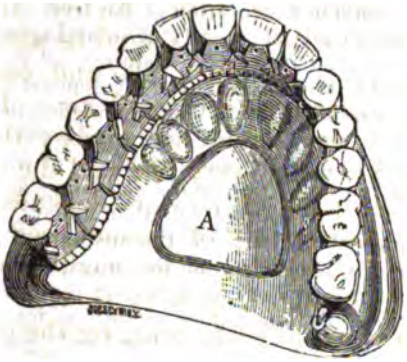
The first coat of body should be applied quite thin, great care being taken to fill every space around and between the teeth and backings. The case should be frequently tapped or jarred with some light instrumont to settle the body together, absorbing the water from the surface with absorbing paper or cloth, repeating the operation as long as the moisture comes to the surface. Then apply body less wet, building up and carving into the desired form. Reference should be had to the outline drawing before made, to ascertain if all the points are sufficiently prominent, or too much so, and alter accordingly. Care must be taken to remove all body adhering, to the crowns of the teeth. The piece is now ready for the first baking, which may be done in any common tooth furnace. The one recently introduced by E. A. L. Roberts, 55 Bond street, New York, is the best for this kind of work that we have ever seen. The case should be advanced very slowly into the muffle (the best Lehigh coal being used for fuel) and the heat carried but a little above the melting point of pure gold. The first coat of body requires less heat than the second. The body after baking (for strength) should present a raspy surface under the finger nail. When the piece is cold, the rim should be turned as much as required, (the body having been pared away before baking to allow this,) all of the seams filled up with fresh body, and the build-up, and carving completed as required when finished. It is now baked the second time, the heat being carried a little higher than before. After each baking the work should be allowed to cool down slowly in a cooling muffle and carefully protected from all currents of cold air. If, after the second baking, any seams are visible, they may be filled with body ground *very fine*, and the gum enamel applied. The beauty of the work depends much upon the quantity and quality of enamel used. It should be applied even in thickness, as smooth and compactly as possible, and heated up very slowly. An hour or more should be occupied in bringing the piece into the baking heat, which should be near a white heat. The enamel should flow smooth and look glossy in the muffle. When sufficiently fused the case should be transferred to a moderately heated muffle and allowed to cool down slowly, and when a little below the temperature of 212 degrees it may be placed in water, heated to the temperature and remain until cold. This prevents any checking of the gum.

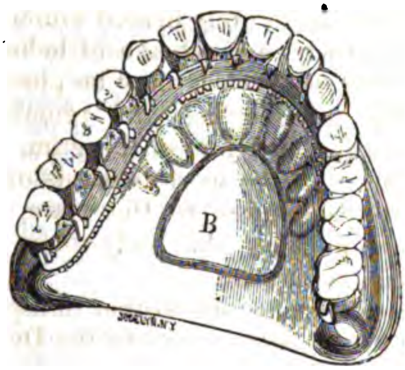
The durability of the work depends upon the manner the teeth are secured to the plate, and the care taken in manipulating the body so as to render it a compact and solid mass.

As a system, I know of no other that presents fewer difficulties or more advantages to the Dentist and patient.

All the materials in their nature are indestructible, its application universal for full cases, uniform in results, and its accomplishment not difficult. The time has come when all the doubts which formerly existed in regard to its utility are dissipated.

This age is not unlike many which have passed away. "They stoned the prophets;" but a more advanced civilization build monuments to their memory.





[From Appleton's New American Cyclopædia, Vol I.]

ANÆSTHETICS.

Anæsthetics (Gr. *a* privative, and *αισϑανομαι*, to feel), substances which can produce a general or partial suspension of nervous power, by most considered as restricted to the sense of touch. In the common acceptation of the term should be included all drugs which have the faculty of so acting upon the brain, that this effect can be caused ; for instance, all the forms of narcotics and diffusible stimulants. But by general consent, during the past few years, this title has been confined to the most volatile forms of chemical agents which can produce the effect when inhaled, or applied externally, and the effects of which are transitory ; the terms narcotization and coma being applied, where a long-continued effect is caused by other agents. The action of all anæsthetic agents is through the medium of the blood, into which they are taken either from the lungs, the stomach, or by the skin, and carried by the circulation to the brain, where they produce a very profound but transient state of intoxication. Anæsthesis is said to be either general or local ; general, when all power over the mind or body is lost ; local, when only a particular part of the body is affected, the brain and rest of the system remaining as ordinarily. Loss of sensation, in restricted portions of the body, has been attempted in various ways, by long pressure upon the nervous trunks leading to the part, first put in operation by Ambrose Paré, afterward adopted by Dr. Moore, about 1784 ; the application of carbonic acid gas, recommend by Dr. Hickman in 1828, a procedure which has again been lately revived by Dr. Simpson ; the application of the various ethers especially chloroform ; and by a true freezing of the part, as recommended by Dr. James Arnott, of London, who employs for the purpose a mixture of pounded ice and common salt enclosed in a muslin bag. But thus far, the results of all have been but meagre, as it has been found almost impossible to reduce the sensation of the part to a low enough degree, to prevent some amount of pain without danger of destroying its vitality. Various anæsthetic agents have been employed at different times—the several kinds of ethers, nitric, acetic, sulphuric, &c., protoxide of nitrogen ("laughing gas"), aldehyde, olefiant gas, naphtha, carburetted hydrogen, Dutch liquid, benzoin, chloroform, amylene, a substance introduced during the past year by Dr. Snow of London ; but none of them have proved so successful, or are now so generally used, as sulphuric ether and chloroform

This latter substance was discovered nearly at the same time in the year 1831, by Mr. Samuel Guthrie of Sackett's Harbor, New York, M. Soubeiran in France, and Prof. Liebig in Germany, but its chemical composition was not accurately known, until ascertained by Dumas and Peligot, in France, in the years 1834–5. Correctly speaking, it consists of 3 atoms of chlorine to 1 atom of formyle, hence the origin of its name and synonymes chloroformyle, formychloride. Its true chemical definition, however, is a "terchloride of formyle which is the hypothetical radical of formic acid." Its use for the same purpose as sulphuric ether was first proposed by Dr. J. Y. Simpson of Edinburgh, in 1847. The advantages claimed for it over ether, are the smallness of the dose required, a more perfect action, less depression when the heart or lungs are diseased, a more rapid effect, less disgust to the patient during inhalation, absence of persistent odor, and lastly, that it is cheaper. But as unfortunately it has happened that several deaths have occurred from its use, a list of nearly 100 having been collected, it cannot be looked upon as so safe an agent as ether, from the use of which, no matter in how large quantities, or how carelessly, not one death has yet been reported. The benumbing of the nerves of sensation by the administration of narcotic drugs, has been practised for many years, and as record shows was known to the ancients, but with the exception of certain traditions as regards the use in east of the mandrake (*atropa mandagora*), and the hashish (*cannabis sativa*), in the form of vapor for this purpose, we have no proofs that anæsthetic inhalation was ever employed. Richard Pearson recommended the inhalation of sulphuric ether for asthma, &c., in 1795. and in 1816 Nysten described an instrument for its use. In Sir Humphrey Davy's "Researches concerning Nitrous Oxide," published the first year of this century, is this remark: "As nitrous oxide in its extensive operation seems capable of destroying physical pain it will probably be used with advantage during surgical operations, in which no great effusion of blood takes place." It is stated by recent French journals, that a manuscript has been discovered, written by the celebrated engineer Papin, in 1681, in which he proposed to deaden sensibility in the human body when undergoing surgical operations in the same manner as is now done by chloroform. The want of encouragement made him give up all attemps to introduce it into general practice. Dr. J. C. Warren, of Boston, prescribed etheral inhalation for the relief pulmonary inflammation in 1805, and Mr. Wesley Smead, of Cincinnati, published an article on this treatment in 1822. The power of the ethers to produce insensibility was mentioned by Godman in 1822, Mitchell 1832, Prof. Samuel Jackson 1833, Wood and Bache 1833. But its application as an agent for the relief of pain during surgical operations was first publicly made at the Massachusetts general hospital in Boston, Oct. 16, 1846, when at the request of Dr. W. G. S. Morton, of that city, it was administered for that purpose. He had, however, previously employed it for several dental operations. On Nov. 12, he secured a patent for the use of the article in the United State, under the name of "Letheon." On Jan. 2, of the next year a new claimant for the discovery arose in the person of Dr. Charles T. Jackson, of the same city, who declared that he had first suggested its employment to Dr. Morton. The respective claims of each led to much bitter discussion and doubt, so that although the medical profession throughout the United States, generally, awarded the credit to Dr. Morton, the Academy of Sciences at Paris awarded the Monthyon prize of 2,500 francs to Dr. Jackson, as the discoverer. This, however, was soon after on more irrefragable proof reconsidered and a second prize of the same value and character was awarded to Dr. Morton. This diversity of opinion found full vent at the time of the famous "Ether Controversy," when in August 28, 1852, a bill was introduced into the United States Senate by Mr. Borland, to purchase of Dr. Morton his patent for the sum of $100,000. The claims of each were ably argued, as well as those of a third contestant, the widow of Dr. Horace Wells, of Hartford, Ct., who claimed in the name of her husband. The decision ultimately arrived at, and which is most probably correct, was that Dr. Jackson and Dr. Morton had conversed together on the exhilerating effect which ether was then well known to cause, but that the latter first conceived the idea, and had the courage to employ it for this new purpose; that after discovering his success he informed his friend Dr. Wells, who had received some previous intimation as is shown by a letter written Oct., 20, 1846, and that it was from a mistaken recollection of this intimation, that the widow of Dr. Wells maintained her claim.—The objects gained by the adminstration of anæsthetics are various, according as we have to do with surgery, midwifery, or medicine. In surgery: 1. A protracted and careful examination, and consequently more accurate diagnosis, can be made in many cases of disease and injury, where the intense pain caused by the examination, prevents the manipulation of the surgeon, as in fractures, dislocations, stone, &c., &c. 2. From the total relaxation which the muscles receive under a full dose, the reduction of many forms of dislocation, herniæ, &c., is facilitated. 3. In military service, under its influence, men can be removed to a distance where the operation can be conveniently performed, instead of as heretofore being obliged to operate upon the field of battle or in places otherwise unfavorable. 4. The general use of many forms of remedial operation is extended, which otherwise are attended with such exquisite agony that they were rarely resorted to unless from most extreme necessity, as for instance the application of the actual cautery, moxas, &c. 5. Many operations can now be performed for the relief of long continued disease, or after injury which before would have been hazardous, owing to the depressed or feeble state of the patient. 6. Many delicate operations can now be easily performed where perfect quiet is demanded of the patient, and which can hardly be afforded by any amount of exercise of the will, as in operations upon the eye, dissections of nerves or the taking up of arteries. 7. Patients will now apply earlier than heretofore for relief in surgical diseases, the dread of the surgeon's knife often having induced them to postpone until the case became almost hopeless. 8. The mortality from operations has materially decreased, for it is well known that pain has a serious tendencey to depress the nervous system and produce death from exhaustion.—In midwifery: 1. In addition to preserving the mother from the pain always incident to parturition, we have the power of preserving her strength unimpaired when the labor is long continued or especially severe. 2. in all cases of instrumental labor or those requiring manual assistance, the aid can be afforded with greater ease to the accoucher and more safety and less accompanying suffering to the mother. 3. Many cases of doubt in diagnosis can be more correctly solved. 4. From the relaxation of the muscular fibres, the exit of the child through the uterine neck or the vaginal passage when they are rigid, is facilitated. 5. Anæsthetics have the power of keeping in abeyance and reducing the violence of one the worst complications of labor, puerperal convulsions. 6. The recovery of the patient after labor is assisted and the chances of subsequent dangers lessened.—In medicine: 1. As a relief in severe or exhausting pain in disease as from toothache, passage of calculi, neuralgia, &c. 2. As a narcotic in mania, delirium tremens, excitement or wakefulness from any cause. 3. As an anti-spasmodic for chorea, hysteria, asthma, convulsions, &c. They have also been employed in many inflammatory diseases, fevers, &c., and in cholera. They are found very useful in the detection of feigned diseases, as affected paralysis, dumbness, contraction of limbs, &c. Within the last few years they have also been employed for nefarious purposes in cases of violence where a struggle or noise was feared, for murder, robbery, rape, &c. The first effect of all anæsthetics, or when they are taken in small quantities, is exhilarating and intoxicating as from any diffusible stimulant, evidenced by bursts of laughter, hysterical weeping, or loud unmeaning talking. When long continued or in large doses, there ensues a general feeling of warmth, extra power, and excitement generally first felt in the extremities, soon followed by a prickling, benumbed sensation, with confusion of ideas, noises in the ears, usually compared to the vibration of an engine from one side of the head to the other, and flashes of light before the eyes. This is soon followed by loss of sensation and voluntary motion, and total coma. The patient is generally observed to become a little flushed in the face, the veins of the forehead turgid, the eyes suffused and staring open, and the pupils dilated. The pulse is generally increased at the commencement of inhalation, but becomes decreased often lower than natural when the system is fully under the influence, which is the time chosen for the performance of all great surgical operations. The respiration, which is slightly quickened at first, becomes slower and deeper in the somnific state. The temperature of the body remains generally of the ordinary standard, but becomes slightly reduced when the influence is long continued. The effects of the anæsthetics generally disappear almost immediately after the administration is discantinued, and the patient comes to perfect consciousness, or with merely a slight tendency to sleep and dizziness, with no recollection of anything which has happened during the inhalation. Sometimes, however, the recovery is attended with nausea or vomiting, which most often happens when the drug is taken when the stomach is fullr for this reason it should never be given until several hours afte; a meal has been eaten. No person has yet been found to withstand the influence, but the effect is seen much sooner and more quietly in some than in others. They should never be used in diseases of the heart or brain, or where there is excessive degeneration of the lungs. When from an over-dose or the inattention of the giver, the patient seems likely to sink, and the pulsations are suspended, the vapor should be removed from the mouth at once, the patient laid in the reclining position, free access of air allowed, cold water dashed upon the face, and, if necessary, artificial respiration made, sinapisms placed on the feet, and galvanism used. Many instruments have been devised for inhalation, but, as often happens, the simplest means is usually the best. most advisable plan for administering is to fold a coarse towel into the form of a small cone, in the bottom of which is to be placed a small sponge, upon which the liquid is to be poured. At the commencement, the sponge shoald be held at a small distance from the mouth, and the patient be directed inhale by deep and long-continued inspirations, notwithstanding the cough. As he gets more and more under the influence, it should be approached to the face, but it is imperatively necessary that there should be a free admission of atmospheric air. Particular attention should be paid to the condition of the pulse. If chloroform is used, it should be remembered that its vapor is heavier than the air, and consequently sinks; care should also be taken to guard the skin from its irritating properties by smearing slightly with oil or glycerine. The ratio of power of ether and chloroform is considered as about 8 to 1 in favor of the latter, this producing is effect in from 30 to 60 seconds; the former on an average in from 3 to 4 minutes. The dose of chloroform is from 30 drops to 1 oz.; that of ether is of almost any quantity, as much as two quarts having been employed in some long-continued and severe operations.

BIBLIOTHECA ODONTALOGICA.

ABADIE.—Tratado Odontalgico, en el que se esponen las enfermedades de la dentadura, y los médios asi manuales como medicinales propios á corregir sus vicios y á conservar su limpieza. 8vo, Madrid, 1764.

ALBRECHT.—Sichere mittel gegen das Zahnweh. Oder der Kleine Zahnartz. 2 Ausg., 8vo. 1810.

ALEXANDER.—Odontiatrie, oder die Lehre, wie man die Zahne gesund und schön erhalten und die Krankheit der Zahne nebst den verschiedenen. Arten der Zahnschmertzen grundllich, und sicher heben könne. Für Aerzte und gebild. Nichtærzte bearb. 8vo, Graudenz. 1820.

ALLVEY, SAMUEL.—Dissertatio de Dentione morbisque ex eapententibus. Edinburgh, 1788.

Born in England ; a doctor in Edinburgh at the period of this publication.

ANDREE, CARL AUGUST.—Dissertatio de prima Puorum Dentitione. 4to, Leipsiæ. 1700. pp. 27.

Epistola de Odontagris ad dentes evellendos necessariis, eorum vi mechanica applicationeque. 4to, Leipsiæ. 1784. pp. 23.

Born at Dresden in 1762, where his father was Professor of Surgery ; studied at Leipsig, and received his degree of M. D. in 1790. He was afterwards Professor of Dental Surgery in his native town.

ANDRESSE, WILH.—Ueber das schwere Zahnen der Kinder ein dringender Rath an mütter und Alle, welche sich mit der Pflege der Kinder beschäftigen. 8vo, Berlin. 1835.

ARNOLDI, CARL GUIL.—De cariei dentium origine et prophylaxi commentatio. 8 Maj. confluentibus. 1839. Holscher.

ARROYO, DON FELIX PEREZ.—Tratado de las operaciones que deben practicarse en la dentadura y metedo para conservarla en buen estado. Recopilado de los mejores autores, y adornado con láminas que manifestan la differencia, forma y figura de los instrumentos necessarios para dichos operationes. 8vo. Madrid. 1799.

ASHBURNER, JOHN.—Treatise on Dentition. 12mo. London.

ASSUR, JOEL.—Kort underrättelse om die mäst vanlige tandsjukdomar. 8vo. Stockholm. 1799.

Assur was a Swedish dentist.

AUDIBRANT, CHAMBLY JOSEPH.—Essai sur de l'art du Dentiste. Paris. 1808.

Lettre aux dentistes sur les dents de porcelaine. 8vo. Paris. 1808.

Traité historique et pratique sur les dents artificielles incorruptibles, contenant les procédés de fabrication et d'application. 8vo. Paris. 1821. pp. 22, and 190.

Quelques reflexions, sur le procés intenté au Lord Comte de Bridgewater, par M. Dubois-Chemant, ainsi que son mémoire pour justifiér ses prétensions. 4to. Paris. 1826. pp. 16.

Aurivillius, Samuel.—De Dentitione difficili. 4to. Upsal. 1757.

This little work, although generally ascribed to Aurivillius, is probably the work of his pupil, John Peter Halenius.

Auvity, Ant.—Considérations générales, sur la prémiere dentition et sur le sévrage. 4to. Paris. 1812.

Auzebi, Pierre.—Traité d'odontalgie, ou l'on presente un systéme nouveau sur l'origine et la formation des dents, une description des differentes maladies qui affectant la bouche et des moyens de les guérir. 12mo. Lyons. 1771.

Auzobi was a practical dentist; born at Nimes in 1736, died at Lyons in 1791. His work appears to be principally an advertisement of his own medicines, but contains also directions for extracting teeth.

Avenius, Heinrich.—De catarrho et ejus descendentibus adontalgia, epiphora et otalgia. 4to. Rostock. 16[illegible]

BOSTON MED. LIBRARY
AUG 11 1891

GUTTA PERCHA IMPRESSIONS FOR PARTIAL SETS.

BY C. S. PUTNAM.

I would state, by way of introduction, that for one, I never knew how to take a "first rate impression" over natural teeth, before using the gutta percha. Others may have succeeded better than myself in difficult cases, with wax and other substances, and I know that some have used the gutta percha long ago, and abandoned it for various reasons; some of which were: "the difficulties of obtaining it properly prepared; getting it into the mouth at the right temperature; and then in removing it from the plaster model without breaking the very teeth most desirable to preserve perfect."

The importance of its exclusive use, (when partial cases are to be made,) in preference to anything else now generally known, is so great, and held in such estimation by others than myself, and whose opinions are strictly reliable, that some good may be accomplished by giving the detail of a successful mode in manipulating it.

Almost any quality, or compound of it, with other substances, can be used, but that which is so prepared as to soften with the least heat, and afterwards most readily becomes hard, is preferable.

A *dry heat* should always be employed in making it ready for the impression cup, and the same quantity taken as though wax were used. It should then be firmly pressed into the cup, and when so cooled as to be held on the back of the hand without burning, it is in proper condition to put into the mouth. In from two to three minutes it will have become sufficiently hard to remove; and in case of over-hanging and large crowned teeth, no "drag" will be perceptible, for the material will yield while removing, and immediately after assume the exact form as when in the mouth.

When fully cold, the edges and surplus can be trimmed down with a warm knife, so that the mouth part of the model, when made, will only present a surface intended for the plate.

No oil or other substance should ever be put upon a gutta percha impression before filling with plaster. To remove the impression from the plaster model, put the whole (when the plaster has hardened) into boiling water, where it should remain until the gutta percha is entirely softened; and even then, care will be necessary to prevent breaking off some over-hanging or crooked teeth. I may add a conviction that the plaster is made harder by the boiling water, though I am not prepared to explain the principle, unless it is simply the heat.

In conclusion, I have only to express the belief, that should any dentist who has heretofore depended upon wax impressions in partial cases, once become familiar with the above described process, he will never use the wax again, nor regret the time he may have spent in perusing this hastily prepared article.

MINUTES AND DISCUSSIONS OF THE NEW YORK DENTAL ASSOCIATION.

At a meeting of the Dentists, held at 57 Bond street, on Wednesday, Nov. 18th, at seven and a half o'clock, P. M., Dr. George S. Hawes was appointed Chairman, and Dr. J. G. Ambler, Secretary. The following resolution was adopted:

Resolved, That we deem it expedient to have a series of meetings for the interchange of views on subjects relating to the profession.

On motion, it was

Resolved, That a committee of one be appointed to make the announcement. Dr. G. H. Perine was chosen.

Accordingly, the following announcement was made: "A meeting of the Dental Surgeons of New York and vicinity will be held at No. 57 Bond street, on Wednesday, Dec. 2d, at half-past seven, P. M.

"The object of the meeting is to associate for the promotion of the individual, as well as the general interest of the profession to which we belong.

"The invitation is intended to be general; and it is hoped that no one will feel himself neglected, in case he does not receive a copy of this Circular; but that each and all will interest themselves in the movement, and give it their hearty co-operation and support."

Agreeable to the call, a meeting was held at the above named place, on Wednesday, Dec. 2d, at half-past seven, P. M. Dr. F. H. Clark was appointed Chairman, Dr. J. G. Ambler, Secretary. The minutes of the previous meeting were read and approved.

After some discussion by Drs. Ballard, McIllroy, Perine, Roberts, Dodge, Covell, and Allen, it was, on motion of Dr. Covell,

Resolved, That a committee of five be appointed to present a Constitution and By-Laws.

The committee consisted of Drs. Covell, Ballard, Perine, Allen and Clark.

On motion, adjourned to meet at same place, Wednesday, Dec. 9th.

Pursuant to adjournment, a meeting was held at 57 Bond street. Dr. L. Covell was appointed Chairman *pro tem.*, Dr. J. G. Ambler, Secretary.

The minutes read and approved. The report of the committee on Constitution and By-Laws was read and adopted.

Dr. Castle thought the Constitution was too democratic. This gave rise to some discussion, in which Drs, Ballard, Perine, Clark and Ambler, took part. Finally, on motion, Dr. Perine, *Resolved*, That we consider the report of the committee, and it was taken up section by section, and re-adopted without debate.

The signature of members having been appended to the report, the election of officers was proceeded with.

Dr. J. G. Ambler was elected Secretary; Dr. W. B. Roberts, Treasurer—the election of Chairman to take place at each meeting. Business Committee—Drs. C. W. Ballard, John Allen, L. Covell.

Dr. Perine proposed for the evening discussion, the "Treatment of Fangs," upon which Drs. Perine, Ballard, Hawes, Clark and Roberts, expressed their views.

Subjects for discussions at the next meeting were proposed, and meeting adjourned.

These meetings are to be held twice a month.

Association met according to adjournment, at 57 Bond street, on Tuesday evening, Dec. 21st, 1857.

Dr. W. McIllroy was called to the chair. The minutes read and approved, after which, the subject propounded by the committee was read, namely, *The clasping natural teeth, inserting artificial ones on plate. The best method of clasping, whether by wide or narrow clasps. The best means of preventing injury to the natural teeth.*

The discussion was opened by Dr. Clark, reading a paper on the subject. He supposed it was safe to say that clasps were always injurious to the teeth. Decay, however, was in a great degree caused not by the action of the clasp, but by the collection of impure matter between the clasp and the tooth, which formed a destructive acid. There was a difference of opinion as to the best width for clasps. His opinion was that in cases where only perpendicular support was wanted, the clasps should be made so as only to touch the teeth in two or three places, and these places as small as practicable.

Dr. Covell considered there was a slight discrepancy in the views prevented by Dr. Clark. If, as he stated, teeth were always found to be most sound at the point of contact with the clasp, it would follow that the clasp, instead of being made narrow, should be made to cover every part of the tooth.

Dr. Clark wished to know if Dr. Covell had ever seen a man who could make every part of a clasp touch the tooth, unless he would fill it round and make it regular in shape.

Dr. Covell did not insinuate that they could make the clasp touch every part. He simply alluded to the point that if the places where the clasp touched were the places preserved, then they ought to make it touch as much of the tooth as possible.

Dr. Perine said he had given the subject some thought, as to narrow and wide clasps. If the clasps were narrow, they all knew there was less power of resistance; where the enamel terminated at the gum, the clasp acted there, the tooth became irritated very *easily*, and inflammation ensued. If narrow clasps were in some respects preferable to wide ones, he would say let them be adjusted so as to come some distance from the gum—as much so as possible—that there might be a stronger enamel to resist the action of the clasp. He explained the method he had adopted in adjusting clasps—leaves quite a space between the plate and clasp, connecting them at two points as high upon the tooth as possible, thus giving a free circulation. Had seen a case recently, similar to the method he spoke of, that was made by Dr. Hale, of St. Louis, which had been worn about twenty years—the gum and teeth were still in healthy condition.

Dr. Ambler asked if Dr. Perine had not found, where clasps were adjusted in the manner he described, the gum to protrude between the clasp and plate.

Dr. Perine replied that he had not, except in cases where the gums were in a soft and spongy state.

Dr. Clark had in his experience found teeth to decay so rapidly under wide clasps, that he was almost ashamed to use them. He endeavored to cover as little of the tooth as possible, and not to touch the neck of the tooth at all. He had seen clasps fitted very handsomely up to the edge of the tooth.

Dr. Perine said he had received a valuable hint from Dr. Crowell in making a perfect fitting clasp, and he would like to hear from him.

Dr. Crowell explained a very ingenious method he adopted, of making clasps fit perfectly to the teeth. Marking the places on the cast where he required the clasp to fit, and causing a deposit of gold or platina by means of a galvanic battery. By this plan he was enabled to deposit a perfect clasp, which would spring over the tooth, and go exactly to the place where he designed it to fit.

Dr. Stratton had been in the habit of using clasps ever since he commenced practice in 1836, and always endeavored to use as narrow a clasp as was consistent with the necessary strength. His wife had worn artificial teeth for twenty-two years, and there was one molar tooth to which a clasp had been fastened all that time, which was good. There were some teeth of so soft a nature that they never should be clasped. In such cases, teeth should be inserted on the atmospheric principle. He endeavored, in such cases, to avoid letting the clasp touch the gum, but brought the clasp as near the end or crown of the tooth as possible, and always had satisfaction in doing so. He never found a tooth to decay quickly when clasped in this manner. Was particular to make his clasp fit as snugly as possible, and explained how he made it from a plaster cast.

Dr. Roberts considered that was the only way that clasps could be made to fit properly. He was opposed to clasping at all. Perhaps he might differ from some of the profession in this respect; he thought that too many teeth were every year sacrificed by using clasps; that nine cases out of ten, teeth might have been put in without them. But one main point was, *cleanliness.* Dentists were not particular enough in instructing their patients, when clasping were used, to remove often and keep the teeth free from food which collects between the teeth and clasps, and destroys the enamel. One other point in clasps was to have the plate so that it would be *perfectly* firm, and in order to do this, they should adopt a clasp according to the nature of the tooth on which it was to hold. There were circumstances that could not be arrived at except by experience and an examination of the mouth.

Dr. Hurd considered the plan a very good one, which was suggested by Dr. Crowell, for obtaining a perfect fitting clasp, but suggested some difficulties in its accomplishment, and asked how he would take the impression of the teeth that were larger at or near the grinding surfaces.

Dr. Crowell replied that he would take the impression with gutta percha—it would yield in removal, and retain the original form of the teeth.

Dr. Dodge explained a method of obtaining a good cast for fitting a clasp, by means of plaster and a little cup of heavy tin foil.

Dr. Ambler said that some remark had been made as to what was necessary to please patients. He thought the subject they had to discuss was one of merit alone—not expediency—not whether it was advisable to do this or that for the sake of the whims of patients. It was simply whether it was best to clasp teeth under certain circumstances, or not—whether clasps would be injurious or not—and if injurious how did they injure the teeth. With reference to the statement of Dr. Clark, that he never had seen a case where the grinding surface was worn by the clasp, he could say also that he had never seen one. His was attributable to the contact of the clasp with the thickest part of the enamel of the tooth, consequently, in his practice, he endeavored to clasp that part of the tooth that would resist friction the most; it was also necessary to preserve a contact with the whole surface of the tooth as much possible. He believed that teeth were injured more by narrow clasps than by wide ones.—Wide clasps wore the teeth but very little. In depositing for clasps, perhaps it was owing to some imperfection in his apparatus, he had entirely failed.

Dr. Dodge remarked he had not made a piece of artificial work in many years; referred to a case where the clasp was connected with the plate at some distance from the edge of the gums, and was worn without injury to the teeth or gums.

Dr. Perine observed that he was glad to know that the method he had adopted was practiced by others with so much satisfaction; he felt confident, where clasps were used at all that they should be adjusted on this principle.

Dr. Allen had found the method used and introduced by Dr. Gunning, of swaging plates, entirely successful. He went on at some length to explain the manner in which he managed it. He had almost given up the use of clasps.

Dr. Putnam's experience in the use of all metal clasps had been that the teeth soon became decayed. He had known hard rubber to be used very successfully by Dentists.

Dr. Allen mentioned to the members that they would be pleased or interested in learning that E. A. L. Roberts had succeeded in constructing a very powerful ox-hydrogen blow-pipe for melting platina—something which the Dentists of this city had long wanted. He had melted twenty ounces at one time.

After some further discussion, from which much practical and useful information was elicited, the committee reported for discussion at the next meeting, "The destruction of nerves, when indicated, manner of performing the operation, and subsequent operation on the root," and meeting adjourned for two weeks.

Pursuant to adjournment, a meeting was held at the above named place, January 6th, 1858. Secretary called meeting to order. Dr. Hurd, of Williamsburgh, was called to the chair. Minutes read and adopted. Treasurer's report was accepted. The subject for the evening's discussion was read and opened by Dr. Rushmore reading the following paper :

Much has been said and written upon the treatment of exposed nerves. Many suggestions have been made from time to time, with the hope that they would lead to a radical improvement in the treatment of this class of dental maladies. Still the end has not yet been attained. The object we all have in view, perfection, is not yet within our grasp. And until this is accomplished, attentive and patient investigation, not only in this, but in every obscure and perplexing question, should engage every dentist who desires to see his profession rise until it reaches the summit of human skill. The question under discussion I conceive to be one of the most important which calls for the consideration of the dentist. Simple caries, or those not complicated with disorders of the pulp, no matter where its location, or what its character or extent, may in most instances be arrested, and the vitality of the tooth preserved. But caries of a compound character, that which in its progress has reached the pulp, baffles the most consummate skill.

The brain may be deprived of a large share of its nourishment, and yet continue to live and act. Large branches of nerves are excised, and the parts in immediate connection still perform their usual functions. But once destroy the pulp of a tooth, and sooner or later it is attacked by disease, which, mocking at our remedies, proves its destruction. Now, why is this? Is the office or function of the pulp of a vital character, and thus absolutely necessary to the life of a tooth, so that its destruction, no matter by what process, is a death-blow; or is the failure in those cases to be looked for in the treatment pursued?

Either the presence or healthy condition of the pulp is essentially to the vitality of a tooth, or it is not. If the former, then to destroy the pulp is to destroy the tooth. If the latter, then is not the present method of treatment erroneous?

I incline to the opinion that the latter is the case. That the pulp is not of vital importance, and as a sequence to the opinion, that the employment of arsenic is highly injurious. Is not its application almost invariably followed by periostitis of a more or less violent character. Arsenic possesses the power of depriving animal tissue of its principal property which appertains to its vital condition, viz. that of suffering and effecting transformations, or, in other words, organic life is destroyed. Consequently this periosteal inflammation does not result from the effect of free arsenic, but is produced, I think, by reflex action. The reflex action of nerves is capable of transmitting all kinds of expressions or shocks to remote organs. It cannot be difficult, therefore, to conceive how the effects of an injury, such as is caused by arsenic on the pulp, may influence the vital properties of the periosteum, so as to derange its functions, and thereby constitute a local irritation in that part; and it is a maxim, that where there is irritation, there will be increased vascularity, which in time sets up an inflammatory action. This inflammatory action, it is true, may be combated, and, for the time being, may be subdued by local and constitutional treatment, but my faith in complete and ultimate success is very weak.

I have pursued the usual method of treatment, the application of arsenic, removal of the pulp, and the subsequent filling of the roots; but I cannot call to mind a single instance in which the tooth has not given unmistakeable evidences of periosteal inflammation. I do not judge wholly from my own experience, for that is in a measure limited. I may also have been at fault in performing the operations, but I have my opinion upon the evidence and experience of others, in connection with my own. I throw out these thoughts with the hope that they may call forth remarks for my enlightenment.

Dr. McIllroy remarked on the importance of the subject, and was listened to with much interest—spoke of teeth in his own mouth that had been treated and the roots filled; also presented interesting specimens of teeth that the nerves had become ossified.

Dr. Perine observed that it had been remarked by some member at the Convention at Boston, that dentists were disposed to ride a "hobby." Said he was glad that this mode of operating wae with him a hobby, and that he should continue to ride it as long as he was successful in the practice. His method of filling the roots of teeth corresponded with the mode introduced by Dr. J. S. Clark, of New Orleans. He believed it all-important to save the vitality of the pulp, but when it became necessary to extirpate the nerves, he preferred to remove, by mechanical means, when it was possible to do so, but he found his patients would not always submit to the operation. He treated abscess with creosote—also nitrate silver.

To be continued in our next issue.—Eds.

SOCIETY ELECTIONS &c.

MICHIGAN DENTAL ASSOCIATION.

The third annual meeting of the Michigan Dental Association was held at the office of Dr. Porter, in the city of Ann Arbor, on Monday, the 11th of January, 1858, at 7 o'clock P. M.

The officers elected for the ensuing year are as follows :

Dr. Joseph Mansfield, *President.*
Dr. C. B. Porter, *Vice-President.*
Dr. A. T. Metcalf, *Recording Secretary.*
Dr. S. C. Whiting, *Corresponding Secretary.*
Dr. H. Benedict, *Treasurer.*

One good feature was the adoption of a fee bill, which we would like to see adopted by all local societies, believing much good would result.

After the President and Vice-President's addresses, an interesting discussion ensued upon the topics presented by the Committee, but space will not permit our giving a report. The Association adjourned to meet in Detroit on the second Tuesday of January, 1859.

Notice.—We would call attention to the announcement of the annual meeting of the "Western Dental Society," which commences at Quincy, Ill., on the third Tuesday of July, the 20th, and not the 22d, as was by mistake announced. We would say to those who design attending the American Convention at Cincinnati, go early ! and we will assure you not only a profitable but a *good time.*

NORTHERN OHIO DENTAL CONVENTION.

We have just returned from our attendance on the late meeting of the above convention, and desire to say a few words upon conventions in general, and this one in particular. And to begin at the end, we wish to express our thanks to our western friends for their kindly treatment, the liberal manner in which they have come forward to aid the present enterprise, and the gratification, both sensual and intellectual, which we experienced during our visit. We hope to be able, at no distant period, to reciprocate at a similar meeting in our metropolis. We should, if spaec permitted, take great pleasure in publishing some of the papers read before the convention.

And now a word concerning the principle upon which these meetings are instituted and supported. We have elsewhere given our voice for association, and shall always give it our support. Its beneficial effects are varied and great, not only upon the profession as increasing their knowledge, but also through them upon their patients. We earnestly counsel our friends in New-York and the East, to lose no opportunity of attending all such conventions; they will find that in the end they will be richly repaid for the slight expense of time and money.

ST. LOUIS DENTAL SOCIETY.

At the second annual meeting of this Society, held January 5, 1858, the following officers were elected for the year:

Dr. E. Hale, Jr., *President.*
Dr. Hy. Barron, *Vice-President.*
Dr. E. H. Peebles, *Treasurer.*
Dr. D. L. Levett, *Secretary.*
Dr. Isaiah Forbes, }
Dr. A. M. Leslie, } *Executive Committee.*
Dr. J. G. Nichols, }

WESTERN DENTAL SOCIETY.

The undersigned, a Committee appointed in May last, to prepare and announce the subjects and order of discussion at the next meeting, to commence on the 20th of July next, at Quincy, Ill., respectfully submit that the discussions come under the head of "miscellaneous business," and in the following order:

1. Difficult dentition.
2. Cause and treatment of the irregularity of the teeth.
3. Best method of treating diseased dentine when the pulp is exposed or destroyed by natural causes.
4. Filling teeth.
5. Best manner of inserting partial sets with clasps.
6. Relative merits and demerits of the various modes of constructing artificial dentures.

We respectfully urge upon members and visitors having reports of cases, casts, cuts, diagrams, or specimens of operations, or work, together with new instruments, tools, fixtures or designs, intended to promote the interests or facilitate the practice of our profession, to present them for inspection before the Society.

Come, gentlemen, let each one bring something for the good of the whole.

H. E. PEEBLES, }
G. H. PERINE, } Committee.
A. BLAKE. }

AMERICAN DENTAL CONVENTION.

SUBJECTS FOR DISCUSSION AT NEXT ANNUAL MEETING.

"The Business Committee appointed at the Convention at Boston, would respectfully present the following topics for discussion at the next Convention, to be held in Cincinnati, commencing August, 1858:

1. The best means of securing and preserving good teeth.
2. Treatment of exposed nerves.
3. Mechanical dentistry.
4. Filling teeth.
5. Miscellaneous.

J. Taft, C. W. Spalding, C. A. Harris, E. Townsend, B. Lord, Committee."

NORTHERN OHIO DENTAL CONVENTION.

OFFICERS.

B. Strickland, *President.*
S. P. Huntington, *Vice-President.*
C. R. Butler, *Recording Secretary.*
B. F. Robinson, *Treasurer and Corresponding Secretary.*

NORTH CAROLINA STATE DENTAL SOCIETY.

The next meeting of this Society will take place at Charlotte, on the last Wednesday of September, 1858.

OFFICERS.

Dr. E. H. Andrews, *President.*
Dr. D. P. Gregg, *Vice-President.*
Dr. D. W. C. Benbow, *Secretary.*
Dr. Hubbard, *Treasurer.*

REVIEWS.

We have on our table the first number of the "Dental Reporter," edited by Jno. T. Toland, and published quarterly at Cincinnati, for 25 cents per annum in advance. The present number appears to be a selection from various sources, and a medium for advertising the editor and publisher's wares; if it does not promise much, it certainly executes what it does promise, and will not make a very severe demand upon the purses of the profession.

We have also received No. 1 of the "American Dental Review," edited by A. M. Leslie, D. D. S., at St. Louis. This is also a quarterly, and is becoming favorably known in the profession. Dr. Leslie is well known as a scientific man, and possesses the valuable ability of expressing his ideas clearly and concisely. The February number of the "Review" contains several accounts of cases, transactions of societies, &c., &c. Dr. Peebles, on Dental Essays, expresses our own views fully; his suggestions are valuable. The article on Clasps, by C. W. Spalding, D. D. S., gives no new information, at least to us at the East; the form of clasps he mentions having been introduced here some years ago. Where clasps must be used we fully approve of this method. We should be happy to mention particularly several other articles in this issue, but time and space forbid. The "Review" promises well, while its terms, (50 cents per annum, in advance,) are reasonable enough to satisfy all.

We have also before us two specimens of Registers for Dental Operations. One by G. H. Waters, D. D. S., we have used for a number of years, with complete satisfaction. A copy of a similar work, by Dr. F. H. Clark, of New York, differs from the former, in that it admits of locating operations in any part, the plates giving a more comprehensive and complete view of the jaws.

We have also received from Dr. J. F. Whitman a Book of Receipts, comprising also a complete record of artificial work performed upon patients, and showing at a glance the number of teeth inserted, material used, expense, &c. This work will be found useful to every operator. Price $1.

EDITORIALS AND CUTTINGS.

THE NEW YORK COLLEGE OF DENTAL SURGEONS.

A petition for a charter for the above institution has been persented to the Legislature. By the exertions of the Committee appointed by the New York Society, it has fallen dead, "never to rise again." The bill incorporated parties whose names are entirely unknown to the profession, and was so evidently "bogus," that no financiering could crowd it through. We recently had an interview with Dr. Wescott, of Syracuse, who proposes to transfer the Syracuse charter to New York, whenever the profession here are prepared to receive. The necessity of such an institution cannot be denied, and the advantages of this mode of procedure are many and great. Are we not already prepared for it? Let the profession stir in the matter!

In the month of November, 1857, a general invitation was issued to the profession in New York and vicinity, to attend a meeting at No. 57 Bond street, to consult upon and advance the general interests of the science. The meetings thus inaugurated, continued to be held during the winter, and were attended by a large number of the profession; papers were read, discussions were conducted, and a free expression of opinion invited and encouraged by all. These meetings were productive of much good, and we hope to see them continued during the present season. A society should be organized, and we have no doubt will be, its advantages are so prominent, and its usefulness so undoubted. Two heads are better than one, and many heads are better than two, always allowing that the heads contain brains; an interchange of ideas, while it establishes an immediate and active good, also leads to much in the future, being suggestive of other ideas, and introducing new trains of thought. Success to the principle of Association!

We would call especial attention to the advertisement in this number of the JOURNAL, of Mr. J. D. Chevalier. It will be seen that he offers special inducements to the profession.

Those of the profession who are working the platina or Allen style of artificial work, will be pleased to know that their platina may be refined and pressed in plates by E. A. L. Roberts, No. 55 Bond street, and at rates which will satisfy all. We refer to his advertisement.

We take pleasure in informing the profession that the platina backed teeth, invented by Dr. Bradish, of Utica, N. Y., are being manufactured in this city by Dr. J. W. Crowell. They are too well known to need further comment from us.

REMARKABLE FREAK OF DENTAL DISEASE.

Dr. William Clough, Dentist, of Pittsfield, Mass., lately extracted from the jaws of a young lady, twenty-two years of age, two molar teeth, each presenting the remarkable phenomenon of a pearly substance growing from the edge of the gum. These pearls are perfect in form and pure in quality, possessing, however, no brilliancy. One of the teeth, with the pearl, can be seen by applying to the Editors of the DENTAL JOURNAL.

A FRENCH DENTIST.—Public schools are found to be a capital quarry for the supply of available teeth; a dentist from Caen having gone to St. Étienne, and presenting himself as a public health officer commissioned to inspect the sanitary state of the boys, extracted 260 capital new teeth among some bad ones, and levanted with the valuable booty.

☞ The citizens of Waterbury, Conn., were nicely sold last week, by two chaps who were vending what they represented as a splendid article of tooth-wash, and which "went off like hot cakes" at one dollar a bottle. A dentist subsequently discovered that it was nothing more nor less than nitric acid, with just enough oil of cinnamon to give it a pleasant taste and smell. Of course this preparation will clean the teeth in double quick time, but the trouble is that after a few applications there will be no teeth to clean, they will be entirely "cleaned out."

☞ A dentist in the south of France dispenses with chloroform, having a young poet in his train, who fulfils the office which is given to it—that of beguiling the sufferer of pain. He recites his own compositions during the operation, love stories, fables, &c., &c. The attraction of the youthful *improvisatore* is said to assist greatly in the drawing of the teeth.

☞ A new process of extracting teeth has been tried in Baltimore with success. All that was felt was a numbing sensation about the teeth, produced by passing a current of electricity through the tooth at the time of extracting. The patient grasps firmly in his hand one pole from an electro-magnetic machine, the other pole is attached to the forceps, and by this means a current of electricity is passed through the tooth, and produces a local anæsthesia, and so avoids the use of chloroform or ether.

☞ Death from a singular cause occurred in Philadelphia, last week. A man was leading a horse, and the animal becoming restive, he struck it in the mouth with the back of his hand, which was punctured by coming in contact with a tooth. The hand soon after began to swell, and the inflammation increased up the arm to the shoulder, and the symptoms became alarming. Lockjaw ensued, which resulted in death.

Five Children at One Birth.—On the morning of Monday week, a woman of the name of Elspot Gordon, residing in Rothes, gave birth to three male and two female children. The three boys were born alive and lived till the following morning, but the two girls were still-born. The births were premature, being in the sixth month; but, what is very extraordinary, all were full grown for the period of gestation; nor is this the most surprising circumstance in the case, one of the boys having actually *two front teeth* when he came into the world. Dr. Dawson, of Rothes, attended the woman, who, we are happy to say, is doing wonderfully well.—*Elgin (Scotland) Courant.*

We cannot forbear giving our assistance in spreading a joke where it is good, and while we do not by any means endorse the sentiment of the following "clipping" from the N. Y. Sunday Dispatch, we wish others to have as comfortable a laugh over it as we had. We are certain that the gentlemen who are the inventors of the system satirized, will have philosophy enough to take the joke as it is meant.

"The members of the minor branch of Medico-surgical Science, will be found to be following in the footsteps of the illustrious higher branches of the learned profession. We allude to the Professors (!) of Dentistry, a peck of whom—who, from their excessive increase of number, must now be taken by their measure rather than counted upon their merits—met at 2051 Pully-hauly street, in a neighboring vicinity, to experiment on a few unfortunate, but morally guilty, wretches; of the offence of being victims to that curse of human afflictions—the '*toothache!*' The newly-invented instrument experimented with by these Mechanico-Surgico-Philosophical men of science, in their search under the most painful—to their poor victims—difficulties, was—pause gentle reader, and hold your breath, while we state the name of this wonderful instrument—it was nothing less than A COMPOUND-ELECTRIC-ANTIPAIN-MAGNETIC-PAINLESS-TOOTH-EXTRACTING FORCEPS! The "cold water," or "freezing," or, "benumbing!" humbug having been 'played out'—something NEW!! was desirable, hence the meeting of Modern Science—hence the birth of this new and formidable-named Forceps! This wonderful instrument differs widely from the 'ROYAL TOOTH-EXTRACTING CHAIR!' introduced, by a French dentist, a few years since, to the notice, and a very few jaws of the benighted republican simplicity of the American people. This 'royal chair' was made with an iron gibbet, projecting up and over the patient's head, from the chair's back. From the end of the gibbet was pending a chain, with grasping 'claws' at its end; these claws were made secure to the offending tooth, when lo! the operator touched a spring, *supporting the seat,* and let the patient drop, after the most approved principle of dropping malefactors before Newgate. In the case of one unfortunate lady, she hung by the tooth, and struggled hard to be released. This caused the too sensitive lady to give out to a too-credulous public that the Frenchman had intended improper liberties with her. From that moment the 'Royal Tooth-Extracting Chair' received its *coup de grace* in the estimation of the tooth-extracting seeking portion of the public.

"Now we have a peck of dental savans meeting at No. 2051 Pully-hauly street, to experiment with the novel instrument—the compound electric antipain, magnetic, painless, tooth-extracting forceps. The practical result of their experiment will answer for its importance as a new phase in mechanico-philosophical surgical science.

Victim No. 1—Biddy O'Donohue was seated in the operating chair. The forceps attached to a galvanic battery by the usual galvanic 'poles' or wires, isolated from the operator's hands by a nonconducting gutta-percha covering, is applied to Biddy's tooth, and the galvanic shock is applied. Poor Biddy, if not knocked into a cocked hat, is stupefied with the electro-galvanism applied to her head, shrieks with terror—a wrench and the tooth is out, and Biddy howls from pain. She is dimissed and told to 'keep her mouth shut' to keep out the cold.

"Victim No. 2—Bridget Murphy. Second dental savan operates. Galvanic shock—she don't know whether she stands on her head or whether she is dead. Bridget in terror and cold sweat—a wrench at the tooth—did not accept the invitation to vacate the premises—sobbing, crying and fainting, she submits to another electro-galvanic shock and wrench at the tooth—she is carried into the next room in an insensible state—tooth remains in her head.

"Victim No. 3—Mary Malone. Electro-galvanic shock by third dental Savan—not quite ready. Mary turns ashy pale with premonitory symptoms of 'hysterics;' second shock too soon—Mary begins to scream; third shock and the tooth and Mary go off, Mary in a paroxysm of hysterics and the tooth borne away as an electro-galvanic trophy.

"But why proceed with the misfortunes and torturings of the too-confiding Biddies. Have not the dental savans made their experiments? Will not the public be made cognizant of the wonders of this instrument? We hope that no duel—no blood-shed beyond that shed in the above victims—will be brought about by the claimants as to whom the honor is due for the discovery and introduction of this wonderful dental forceps. Yours, &c.

MAWLEY TUGEM, D. D. S.

We received the proof sheets of the minutes and discussions of the Northern Ohio Dental Convention, from Drs. Taft and Watt, but press of matter prevents our making use of it in this number. We hope to reciprocate ere long.—EDS.

THE
New-York
DENTAL JOURNAL.
OCTOBER, 1858.

HOW THE TEETH ARE DESTROYED.

BANEFUL EFFECTS OF SALERATUS AND CREAM OF TARTAR UPON THE TEETH.

Our readers will doubtless remember a paper read before the Convention at Boston last summer, on the effect of saleratus and cream of tartar upon the teeth; by Dr. S. Baker of Portsmouth, N. H., which was copied by the N. Y. Tribune from the Portsmouth Journal. We give below a reply to the above article, written by Prof. A. Westcott of Syracuse. The scientific knowledge displayed in this article is such that we consider its circulation in the profession will be of service to its members, and therefore present it entire, as copied from the N. Y. Tribune of July 9th.—Eds.

The author, a Mr. Baker, (whether doctor, dentist, or divine does not appear), thus commences his essay: "As a subject generally interesting and important to "the public, I venture to offer some views of my own "and others in regard to the articles that head this "communication."

This subject is indeed an important one, in any point of view, interesting every individual in every community, when considered simply with reference to the teeth; but if the views entertained by Mr. Baker, as set forth in his article, are correct, it is pre-eminently so, for he not only contends that these substances which are in general use in cookery are universal tooth destroyers, but that they are also equally active in undermining the general health, nay, that "they are both *acrid poisons*."

But as the article in question was evidently written to show "how the teeth are destroyed," I shall confine my review to the dental branch of the subject, leaving the rest to be settled by the various interested parties along the line—from the baker to the undertaker. In reference then to the "baneful effects of saleratus and cream of tartar" upon the teeth, and to which Mr. Baker unhesitatingly ascribes their premature destruction in this country, I will say that, after having carefully read his article and examined his alledged facts, I have yet to see in them the first shadow of proof in support of his remarkable theory.

Before entering, however, upon any direct examination of this subject, as it will appear in the light of *facts* and science, I beg leave to enter my protest against the author's mode of reasoning upon any scientific subject. The first item of evidence which he offers to sustain his position is the following quotation from the "popular work" of Mrs. Stowe:

"How comes it that our married ladies dwindle, fade and grow thin—their noses incline to sharpness, and their elbows to angularity," &c., at a certain period of their lives? As a matter of merest conjecture she adds, "Have not our close-heated stove-rooms something to do with it? Have not the immense amount of hot biscuits, hot corn-cakes, and other compounds got up with the acrid poisons of saleratus, something to do with it?"

Now, what assistance this quotation can afford Mr. Baker in establishing his theory, of dental caries, I am at a loss to determine, and I think it will puzzle him to point out any special connection between "angular elbows, sharp noses" and decayed teeth, unless he reverse his reasoning and make the first two consequent upon the last. But had this conjecture of Mrs. Stowe's pointed directly to the teeth instead of the nose, it would still have been conjecture, and nothing else, and entitled to no more weight than any other conjecture from a lady of though great general intelligence, yet not even professing to have any knowledge of this scientific topic.

Questions so purely scientific are not to be settled by the dictum or the opinion, much less by the conjecture, of persons however talented or learned in other matters, but who may be profoundly ignorant of this special department of science; and the practice, which is quite too common, of quoting the opinions of eminent persons merely because of their eminence, cannot be too strongly deprecated. The world is full and running over with senseless dogmas and prejudices which obtained their footing in this way, and which depend for the influence which they exert wholly upon their eminent origin. The next witness introduced by Mr. Baker speaks more directly to the point, and is no less a man than the editor of *The Boston Transcript*. He gives it as his positive *opinion* that it is cream of tartar, carbonate of soda and saleratus "which is the cause of our young men and women having decayed teeth." Will this gentleman, who is so ready with an *opinion*, inform us *how* these articles ruin teeth—whether by direct effect upon these organs, acting upon them while in the mouth, on their way to the stomach? or are they taken up by the circulating fluids, and act upon the teeth through the general system? Will he inform us why these two substances, an acid and an alkali, are always used in connection in cooking, and what is the result of this connection?

If our friend is as expert in the chemical laboratory as in the editorial chair, he will find by mixing in proper quantities cream of tartar with either carbonate of soda or saleratus, that the result will be a neutral compound, which is as inert, so far as the teeth are concerned, as so much chalk. He will find that because the component parts of a compound are acrid in their nature, it by no means follows that the compound is so, or that it partakes in the least degree of the character of either constituent. Plaster of paris, for example, is composed of lime and sulphuric acid, (oil of vitriol,) and while neither of its elements can be taken into the mouth or stomach without the most serious consequences, the compound is wholly inert and harmless. If he extend his examination to the composition and structure of the teeth themselves, he will conclude that if these articles injure the teeth at all, their "baneful effects" must be exerted directly; for finding, as he will, that the enamel is made up, for all practical purposes, solely of mineral matter, and has not the slightest circulation, he will conclude that this portion of the tooth (which is the surrounding and shield to all the rest) is neither capable of benefit nor injury through the medium of the circulation. When his examination is directed to the *bone* of the tooth, underneath the enamel, he will find that the chances for reaching its substance through any vessels with which this structure is endowed not to be materially enhanced, for the circulation of the blood in the bone of a tooth is so slight as to require extraordinary circumstances to prove its existance. But even supposing it possible to communicate into the substance of the *bone* of a tooth this "baneful effect of saleratus," &c., so as to produce decay, what follows? Where would the decay be found? Evidently *on the inside* of the tooth, under the enamel. In other words, it would be an example of *internal* decay, thus involving a theory long since discarded by every intelligent dentist. If he extend his investigation still further, he will find the universal law of the system to be, that those parts which are the most vascular are the most liable to be effected through the agency of the circulation; and as the bones of the general system are a thousand times more vascular than tooth-bone, the former (upon the above theory) we would naturally expect to find, in the same ratio, more subject to disease; whereas for every case of carious bone, of the general system, we find ten thousand cases of carious teeth. In short, after he had investigated the entire subject so thoroughly as to be qualified to give an opinion which might be safely adopted by the public generally, he doubtless could and would give some better grounds for it than the only one offered by him, viz., that the French eat less saleratus than we do, and the French have better teeth; ergo, saleratus destroys our teeth. Would it not be equally good logic to say, the French drink less bad whisky than we do, and the French have sounder teeth; ergo, bad whisky is what destroys our teeth?

Mr. Baker also quotes the opinion of several doctors, to the effect that a number of students of Williamstown were made sick by eating warm biscuits and puddings "so filled with saleratus as not only to give them a yellow or burnt appearance, but also to render them bitter and nauseous to the taste." This witness further states that "after thus living for a few *months* a disease broke out, which was so severe that many believed it to be contagious." Upon this case no comment is necessary, and why is it lugged into an article whose aim is to show that saleratus destroys teeth, I shall leave the reader to conjecture. But Mr. Baker himself does not seem quite satisfied with the testimony above referred to, and hence he, as he informs us, has resorted to experiment. Now, this is doing something in the right direction—far better than to quote the opinion or conjecture of those who cannot be supposed to have any special knowledge upon this difficult subject. He says, "I subjected a handful of teeth to a strong and warm solution of saleratus for about fourteen days; the consequence was they became as brittle as burnt bones. At the same time I subjected some to a solution of cream of tartar; the consequence was not the same, but equally if not more injurious." Now, admitting the "consequences" in the above experiments to be as stated with reference to each article separately, I would ask Mr. B. if the inference which he draws with reference to them when united, as they always are in cooking, is correct? He has overlooked the vital fact that the two have been united; that a play of affinities has occurred during the process of raising and baking the dough that has resulted in an entire different substance from either saleratus or cream of tartar. The result, as I have already stated, is a neutral salt, perfectly harmless, so far as the teeth are concerned, and in no case would it be possible to get the separate effect of either, in cooking, unless the one or the other were used in excess—more than could be neutralized by the other. The process of raising dough by an alkali (which must always be a carbonate) and an acid is at once simple and beautiful. The only condition necessary in the choice of an acid, when either saleratus (super carbonate of potassa) or carbonate of soda is used, is to select one which will decompose these carbonates, and unite with their base, and form with said base a harmless salt. Sour cream, as every cook knows, is often substituted for cream of tartar. These opposite elements are so mixed with the dough that we may suppose a particle of each is resting, side by side, in every supposable point in the batch. As soon as the lump is subjected to a proper heat the decomposition and recomposition begins—each particle of acid seizing and uniting with a particle of carbonated alkali, and excluding in a gaseous form its carbonic acid, which, in its attempt to escape, forms an "air cell" in the loaf. A multiplication of these air cells thus formed gives lightness to the lump. When the bread is baked, if the saleratus and cream of tartar were used in the right proportions, there does not remain a particle of either as such. The carbonic acid of the saleratus has been expelled, and the excess of acid in the cream of tartar has united with the potassa of the saleratus and formed a neutral compound of tartrate of potassa, which is wholly inert as regards the teeth, both directly and indirectly.

Will Mr. Baker, in view of the above facts, please inform us what has become of his experiments, or rather show us their utility in reference to the articles tested, when used in cooking? He clearly having tested the wrong compound, whatever the result may have been, it has no bearing whatever upon the object aimed at. The destructive effect of cream of tartar, when directly applied to the teeth, is by no means overrated by Mr. B. There is scarcely any acid which acts more promptly in decomposing and dissolving the enamel of a tooth, but his experiments with saleratus could not have been carefully made ; certainly his record and my own, made of experiments conducted with the utmost care. do not correspond. I have yet to be convinced that saleratus decomposes or dissolves the *enamel* of a tooth. Tooth-bone, which constitutes the greatest bulk of a tooth, consists (by weight) of nearly equal parts of earthy matter—phosphate and carbonate of lime—and animal matter. All alkalies have an affinity for the animal matter, but not for the earthy. The enamel, as above stated, contains hardly a trace of animal matter, and is scarcely affected by the most concentrated alkali—even caustic potash has little or no effect upon it. In the Summer of 1843, I conducted a series of experiments, assisted by Dr. Wm. Dalrymple (now of Bond street, New York), with the view to ascertain the precise effect of every substance liable to be brought in contact with the teeth, and which I have several times repeated and varied in different ways, that the result might not be deceptive, and which, instead of being confined to *two* articles, included between one and two hundred different substances. I find no such record as that made by Mr. Baker in regard to saleratus. These experiments were continued for four months, each tooth examined every forty eight hours, and the effect upon it carefully recorded. In order to be more positive, if possible, in regard to the neutral salt, tartrate of potassa (which must not be confounded with super tartrate of potassa, or cream of tartar, which latter has a large excess of free tartaric acid), I have, since the appearance of Mr. B.'s article in the *Tribune*, most thoroughly tested its effects upon the human teeth, and the result not only corresponds with the original record above alluded to, but fully justifies the renewal of the assertion, that this neutral salt has no effect whatever upon the teeth. Now, for the benefit of those who may have the curiosity to examine this subject, I will give a brief summary of the sesult of the original experiments as recorded in 1843, which is as follows:

First: Acids, both vegetable and mineral, act readily upon the bone and enamel of the teeth.

Second: Alkalies do not act upon the enamel of the teeth, though the strongest of these, caustic potash, readily destroys the bone of the tooth by uniting with its animal matter.

Third: Neutral salts have no effect upon the teeth, unless the acid of the salt has a stronger affinity for the lime of the tooth than for its own base; but when this is the case, the acid leaves its former base and unites with the earthy matter of the tooth, resulting in its decomposition and destruction. We have a most extraordinary example illustrating this principle in the effect of alum upon the teeth. The effect of this substance (which is a sulphate of alumni and potassa, and which contains no *free* acid) is most destructive, wholly destroying the enamel in a few days. This result can only be accounted for on the supposition that the alum is decomposed—its sulphuric acid uniting with the lime of the tooth.

Fourth: Super salts, or those which contain a free acid, have the same effect upon the teeth as their acids would have, uncombined with a base. Cream of tartar (super tartrate of potassa), for example, destroys the enamel of a tooth very readily, and probably with equal promptness as if the pure tartaric acid were employed, uncombined with a base. The frequent use of this acid salt in medicine, and to form acidulated drinks, renders a knowledge of its real character in reference to the teeth of great importance.

Fifth: Vegetable substances, not acid, have no effect upon the teeth, unless by fermentation acid is formed, in which case the (acetic) acid would of course produce the same mischief as when derived from any other source.

Sixth: Animal substances, even while in a state of confined putrefaction, act very tardily, if at all, upon either the bone or enamel. On examining the teeth subjected to such influence, the twentieth day of the experiment, no visible phenomena were presented, except a slight deposit upon the surface, of a greenish, slimy matter, somewhat resembling the green tartar often found upon the teeth in the mouth.

To give a more definite idea of the deleterious agents to which the teeth are exposed, and the consequent liability to be affected by them, I will notice the effect produced by a few of the individual substances which are more or less liable to be brought in contact with the teeth.

Acetic and citric acids so corroded the enamel in forty eight hours that much of it was easily removed with the finger-nail. Acetic acid, or common vinegar, is not only in common use as a condiment, but is formed in the mouth whenever substances liable to fermentation are suffered to remain about the teeth for any considerable length of time.

Citric acid or lemon juice, though less frequently brought in contact with the teeth, acts upon them still more readily.

Mallic acid, or the acid of apples, in its concentrated state, also acts promptly upon the teeth.

Muriatic, sulphuric and nitric acids, though largely diluted, soon decompose the teeth. These are in common use as tonics.

Sulphuric and nitric ethers have a similar deleterious effect, as also spirits of niter. These are common diffusable stimulants in sickness.

Raisins so corroded the enamel in twenty-four hours that its surface presented the appearance and was of the consistency of chalk. This remarkably destructive effect of raisins upon the teeth will be readily understood by those who are familiar with the chemical and commercial history of cream of tartar. This substance exists ready formed in the juice of the grape, and is deposited as alcohol (in which it is insoluble) is formed during the process of fermentation; so that in the casks used for this purpose a cake of crude tartar is deposited. This purified is the cream of tartar of commerce. When the grapes are prepared as raisins this substance is of course retained, and is what gives that peculiar acid flavor to this fruit in the form of raisins, and at the same time renders raisins so destructive to the teeth.

Sugar as such does not in the least affect the teeth: but as it promotes the fermentation of other vegetable substances which may be about and especially between teeth, the acetic acid which would thus be formed would prove an active source of decay.

Teeth placed in calomel (which was made of the consistency of cream by mixing it with water) came out at the end of four months as bright and sound as when they were placed in it; proving most conclusively that the direct effect of this substance, when injuriously affecting the teeth, is confined wholly and exclusively to the parts investing these organs, and hence does not act except indirectly in the destruction of the teeth.

From the above facts and considerations I think every intelligent reader will conclude that the theory sought to be established by Mr. Baker, viz., that saleratus and cream of tartar, *as used in cooking*, are the chief agents in producing the proverbial rottenness of the teeth of Americans, is without the least foundation in fact, and that, on the other hand, they have little or nothing to do in securing this lamentable result—while at the same time they do point directly to many of the agencies by which the teeth are in fact destroyed.

With the hope that the above facts and considerations may not only do something to correct a mischievous error, but also furnish some hints which may be beneficial to the community at large, I beg leave, through your widely circulated paper, to submit them to the public.

A. WESTCOTT, M. D., D. D. S.

Syracuse, June, 1858.

SALERATUS AND THE TEETH.

FROM THE N. Y. TRIBUNE.

Sir: So much has been said of the injurious effect produced on the teeth by saleratus, soda and cream tartar used in bread, that I trust you will allow me to reply to Mr. Baker's article on the subject. Saleratus is a bicarbonate of potash; baking soda is a bicarbonate of soda. When either of these is brought into contact with cream tartar (which is a bitartrate of potash), mutual decomposition ensues, the carbonic acid gas of the alkali is replaced by the second equivalent of acid in the cream tartar, and we have the neutral tartrate of potash or soda. If sour milk is used instead of cream tartar, neutral lactates are formed. These substances ought to be used in their combining proportions, but in ordinary practice a slight excess of acid is generally used, for a very minute excess of alkali will spoil the color and taste of the baked bread. From this statement it is evident that saleratus, soda and cream tartar never enter the mouth at all, or only occasionally in very minute quantities. Perhaps it will be said this minute quantity may be sufficient to produce the injury complained of. But there is no foundation for this opinion, for the teeth of negroes are remarkably sound, and yet they use their full proportion of these articles. Again we know that the teeth of the ancient Britons did not decay, for they are to be found perfectly sound to this day in skulls which were interred in the days of Julius Cæsar in the tumuli which are found in various parts of England, while the teeth of the modern inhabitants of that country are very defective, although fifteen years ago the use of saleratus, &c., was entirely unknown to the mass of the people. Thus we see the teeth of the people of England and of many in this country who do not use saleratus, decay, while those of negroes who use it largely, and sometimes unneutralized, do not decay; it is therefore certain the rotten teeth of the moderns are not produced by saleratus, and we can go further yet, for we have conclusive proof that alkalies are not poisonous to the general system in the fact of all fresh milk being slightly alkaline. The opponents of saleratus must certainly have overlooked or been ignorant of the fact that the mildest, and moat easily digestible food for the young, the weak and the delicate is alkaline.

As to cream tartar being unwholesome, I presume it is only necessary to say that it is obtained from grapes precisely in the condition in which we use it. The pleasant acid of this most delicious and most valuable fruit is due to this substance.

Although it is absurd to discard alkalies as poisonous, it is a fact that when used in such excess as to render the fluids of the stomach alkaline, they are injurious (as is excess in the use of any article of food), therefore I would advise persons of weak digestion to be cautious in the use of it, and never eat much molasses cake and sugar crackers, as they generally contain unneutralized alkali, its disagreeable taste being covered by the sweetening.

C. DOWDEN.

IRREGULARITY OF THE TEETH.

BY DR. N. W. KINGSLEY.

Dr. Perine :—In compliance with your solicitation, I send you a report of the treatment of a case of irregularity, and hoping I may not fall into the common error of building up a beautiful theory, and warping facts to support it, I will proceed at once with my subject.

Miss T., aged fifteen, of delicate constitution, face thin and pointed ; teeth in the upper jaw very much crowded, every one of them misplaced ; the canine of one side and first bicuspis of the other missing, having been extracted to correct the irregularity some time before I was consulted, (remarks on the propriety of such a course in another part of this article ;) the molars and bicuspids articulating inside of the lower ones ; the distance across the jaw between the second bicuspids, by actual measurement, *five-eighths of an inch.* Gums spongy, on one side swollen, and almost covering the molars and bicuspids, and constantly irritated on the labial side by contact with the lower teeth at each occlusion of the jaws.

After treatment two months and ten days, it presented the following appearance : Gums healthy, articulation of the teeth correct, cheeks very much fuller, an entire change of expression about the mouth. A reference to the accompanying diagrams will give a perfectly correct idea of their position before and after treatment. The size and relative position in the drawing is intended to be accurate.

By careful measurement I find the enlargement of space between the teeth to be as follows, viz. :

Between	the	second bicuspids,	increase	60	per cent.
"	"	lateral incisors,	"	56	"
"	"	first molars,	"	50	"
"	"	right central & left lateral,		50	"
"	"	" 1st bicuspid & "		50	"

I have used the term per cent. as the most appropriate to convey comparative distances. The reader will readily understand that 100 per cent. would make the space just twice as great as before.

TREATMENT.

A hickory stick, well known to the profession as pivot wood, of proper length, was first placed across the mouth, forced between the second bicuspids, that being the point at which the greatest expansion of the jaw was required. This was renewed daily, forcing in a longer one each time.

Another was added after a few days between the right first bicuspis and left lateral incisor, also changed from day to day. Three to four weeks sufficed to force them out all that was desirable. A gold band was then bent to a comparatively true curve, reaching from molar, resting on the labial surfaces around to molar, and tied with floss silk to those teeth which had been forced into position by the braces; the braces still remaining to keep them in their place. Elastic rings were cut from small rubber tubing, and slipped over the remaining teeth and drawn outward, and tied to the gold band. After a few days the braces were removed, the band acting upon the teeth in a manner to hold them without the aid of the braces; the band was removed, new ligatures applied, and the teeth cleansed thoroughly twice or three times a week, Reynolds' Dental Detergent used daily as a mouth wash. From four to five weeks brought the teeth all into a good position. A plate was then fitted to a model, obtained in the usual manner, extending back to the molars and across the palatine arch, and tied to the bicuspids. This was worn from three to four months, until the parts became settled and firm.

The final result was most gratifying to the patient, her friends and the operator. Order and beauty of arrangement taking the place of what resembled a mass of ruins.

In remarking upon this subject, I cannot avoid contrasting the plan of using braces and ligatures with the inclined plane, which, until quite recently, was the almost universal recourse with the few who attempted the correction of irregularities. From the supervision of a large number of cases, and the observation of its action and results in others, I am led to believe the inclined plane defeats its own purpose. Its action is well known; its intention is to strike the offending tooth at every occlusion of the jaw, and thus force them into position. But as the class of patients requiring treatment is confined to youth, the teeth in a few hours become tender to the touch, when they will sooner go without masticating their food than strike them with sufficient force to produce any movement. And unless all the masticating teeth of one jaw are covered and very accurately articulated to the others, a worse result is more than likaly to happen, viz., elongation of the molars and bicuspids, and entire change of articulation.

Neither do I regard it as necessary that blocks should be built on the molars to masticate upon, in a case, for instance, where the superior incisors close within the inferior; but a very few days is required in the passing over, when the molars would be required to be kept apart, and there will always be more or less tenderness of those teeth firmly braced, which will prevent the patient from biting with sufficient force upon them to drive them back. A patient would not acquire sufficient command of masticators in so short a time to make them of any material service. Neither would I approve, except in rare instances, of the extraction of permanent teeth that stand out of the arch, because the arch is nearly full without them. In a majority of cases the jaw can be expanded, and they restored to their normal position. I believe nature to be the best model we can follow, and no one can doubt but it is her intention, and, as a general rule, most conducive to the beauty of the individual, that all the permanent teeth should stand in the arch.

In these days of the rapid increase in the number of those who require the skill of the Dentist in developing the beauty of the permanent teeth, it becomes us as a profession to bring to our aid all the resources of science and art.

It is surprising the vast amount of culpable ignorance daily and practically displayed by the profession, even in regard to the development of the permanent teeth.

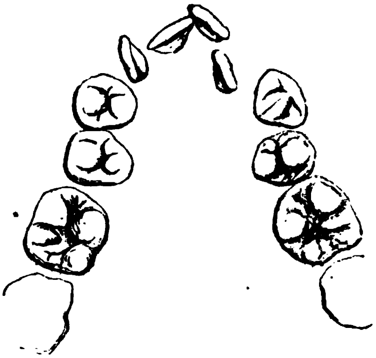
"Removing temporary teeth to make room," has been the cause of more irregularities than Dame Nature was ever guilty of.

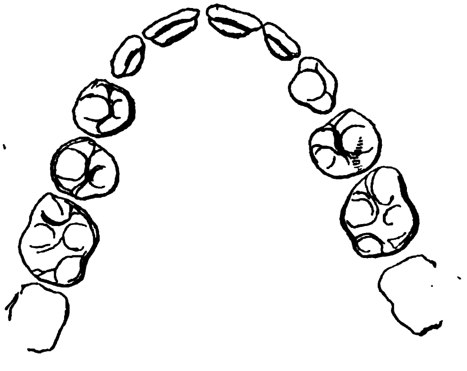
It is not twenty-four hours since my attention was called to a very interesting little girl, of five years of age, who has had her incisors extracted some time since, "so that her permanent teeth may not come in crooked." To any one at all acquainted with the order of developement of the second teeth, it needs no prophet's eye to foresee the trouble that is to follow in that case.

Before the eruption of the lateral incisors, "more teeth must be extracted to make room," and so on until the child cuts its eye teeth, and the parents cut theirs in seeing the sacrifice of those organs, which, more than any others, give character to the mouth. The most charitable view of this case is, that the Dentist who was employed left off shaving his patrons with a razor but a few years to shave them in another profession, and, therefore, could not be expected to know better—another instance of the beauty of democracy in the Dental profession.

Begging your indulgence for occupying so much of your space in this, my first communication to any Dental Journal, I am yours, &c.,

NORMAN W. KINGSLEY.
28 East 20th Street, New York.





BIBLIOTHECA ODONTALOGICA,

Allen, Charles.—Operator for the teeth. 4to, Dublin, 1687.

Arthur, R.—A popular treatise on diseases of the teeth; with description of their.structure and modes of treatment. Usual mode of inserting artificial teeth, 28 illustrations, 12mo, Philadelphia.

B.

Ballif, P.—Anleitung zur Pflege und Erhaltung der Zahne, 8vo, Berlin, 1822.
Description des pluseurs obturateurs inventés, Avec. 8pl., 8vo, Berlin, 1825.

Bauhinus, Hieronymus,—De Odontalgia, 4to, Basil, 1660.

Beaupreau.—Dissertation sur la proprieté et la conservation des dents. 8vo, Paris, 1764.
Lettre à M. Cochois sur le traité des maladies du sinus maxilláire. 12mo, Paris, 1769.

Becker, Godfriedt Wilhelm.—Ueber die Zahne und die sichersten mittel, sie bis zum höchsten. Alter rein, weiss, gesund und von Schmerzen frei zu erhalten. 2 Aufl., 8vo, Leipzig, 1812.
Der Zahnarzt für das weiblicher Geschlecht. Nach der Franzosich des Joseph Le Maire. 8vo, Leipzig, 1820.

Bell, Thomas.—The anatomy, physiology and diseases of the teeth. 8vo, Philadelphia, 1851.
Der vollkommene Zahnarzt oder die Lehre vom Leben, den Krankheiten und den mechanischen Hülfsmitteln zum Ersatz der Zahne. Nach der Französisch des Maury. D. Engl. mit zusätzen nach Linderer. Herausgegeben von einem praktischen Zahnarzte. Mit 42 küpfertafeln. Gr. 8vo, Ebend., 1835.

Bennet, William,—A dissertation on the teeth and gums and the several disorders to which they are liable. 12mo, London, 1778.

Berdmore, Thomas.—Treatise on the teeth; an account of their structure; the cause of their disease; the most effectual method of healing the disorders of the teeth and gums, illustrated with cases and experiments. 8vo, London, 1768–70.
Abhandlung von den Krankheiten der Zähne und des Zahnfleisches. Aus dem Englischen. 8vo, Altenburg, 1771.
Also, an edition in Dutch. Amsterdam, 1769.

Beurlin, Rudolf Philipp.—Disputatio de dentitione difficili, &c. 4to, Altdorf, 1720.

Blainville, Ducrotay De.—Ostéographie, ou description iconographique du squelette et du système dentaire des cinq classes d'animaux vértébrés. 4to, Paris, 1839.

Blake, Robert.—An essay on the structure and formation of the teeth in man and various other animals. Nine plates. 8vo, Dublin, 1801.

Blandin, Ph. Fred.—Anatomie du Systême Dentaire, considerée dans l'homme et les animaux. 8vo, Paris, 1836.

Blume, E.—Der praktische Zahnarztoder kurzgefasste, Lehre der gesammten Zahnarznei—Wissenschaft. Nach den besten Quellen und eigenen Erfahrungen dargestellt. Gr. 8vo, Berlin, 1836.

Blumenthal, Carl Aug.—Nähere Prüfung der Aetiologie der Zahnarbeit der Kinder, gegen Wichmann. Gr. 8vo, Stendal, 1799.

Uebersicht der naturalischen Geschichte der Zahne der Aetiologie, Diagnosis, etc., der Kinder.

Bond, Thomas E.—A practical treatise on Dental Medicine; being a compendium of medical science, as connected with the study of Dental Surgery; to which is appended an inquiry into the use of chloroform, and other anaesthetic agents.

Bourdet.—Recherches et observations sur toutes les parties de l'art du dentiste. 2 vols, 12mo, Paris, 1757.

Soins faciles pour la propreté de la bouche et pour la conservation des dents. 16mo, Paris, 1759, et 16mo, Lausanne, 1759.

Dissertation sur les depots des sinus maxillaires. 12mo, Paris, 1764

Brun, Anna and Franc, Guil. Vacher.—Disputatio de dentitionis accidentibus. 4to, Paris, 1767.

Brunner, Adam Anton, [Surgeon Dentist.]—Einleitung zur richtigen Wissenschaft eines Zahnarztes; mit zweyen kupfertafeln. 8vo, Wien, 1766.

Abhandlung von der Hervorbrechung der Milchzahne. 8vo, Wien, 1771.

Bücking, Joh. Jac. Heinr.—Vollständige Anweisung zum Zahnausziehen, mit 8 kupfer. 8vo, Ebend, 1782.

Buchner, Andreas Elias.—De cura dentium ad famitatem proficua. 4to Halœ, 1752.

Bunon.—[*Surgeon Dentist of Paris,*] Dissertation sur un préjugé concernant les maux des dents des femmes grosses, 12mo, Paris, 1741.

Essai sur les maladies des dents, oú on propose de leur procurer une bonne conformation dés la plus tendre enfance. 12mo, Paris, 1743.

Experiences et demonstrations faites à l'hospital de la Salpêtriere et à S. Côme, en presence de l'Academie de Chirurgie pour servir de suite et de preuves à l'essai sur les maladies des dents. 12mo, Paris, 1746.

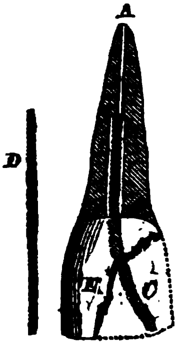
A UNIVERSAL FEE BILL.

At the various Dental Conventions held of late years there have been many suggestions made by members of the profession, from different parts of the country, concerning the irregularity of fees which obtains in the profession. There is probably no profession, and indeed no trade, where the tariff of charges is not more systematized than in ours. Conceiving that the matter is of importance to the profession, and not less so to the public, we would state in a few words the evils of the present system, and the benefits to be derived from an entire change. In the prosecution of any business there are three causes which conduce towards the appreciation of an individual by the public: that is, his popularity and consequent success. These three causes are: first, a knowledge of his business or profession, founded on both study and practice.—Second, power to please the public, independent of capability for business.—Third, a low rate of charges. With either, any, or all of these qualifications in his favor, the practitioner may be sure of prosperity from some quarter. To obtain however the two first of these qualifications, it is necessary that a man should be active, intelligent and persevering; with the latter, he can arrive at the same end, while its attainment argues no superior power on his part. Thus the man who choses to undersell, or undercharge in his trade or profession is certain to find customers, no matter how incapable he may be of performing what he undertakes. And thus the competent workman is shoved to the wall, because he is unable, or unwilling to *give* away what has cost him years of thought and labor to procure. But this disadvantage of the present system is not its only objectionable feature. As there is no standard and no accepted rule for charges, operators themselves do not know how to be guided in making their bills. It is perhaps unfair to charge only for time expended on a patient, because often the operation requiring the least skill and study is the longest to perform, while a process which has only been arrived at by years of study and experiment, is finished in a few moments. It is to arrive at some just medium that we make these suggestions. Let there be a tariff, or fee bill, drawn up by a committee appointed from the various societies, and presented and voted upon either at the next regular meetings or at special meetings called for the purpose. Such report of the committee being subject to debate, it will be easy to arrive at a fair expression of the opinion of all, and thus the end will be as nearly obtained as is possible. The advantages of such action must be evident to all; with a universally admitted tariff of charges no one man will have any advantage over another, as far as this matter is concerned. The fraternity of Dentists will be dignified by the movement, and the public, knowing that they can obtain no advantage of low fees, will seek only the best operators; thus every educated, thorough-working dentist will find his practice increase, while the quacks, the hangers-on, the parasites of the profession, will be driven down to their own level, having lost the only advantage they possessed, that of being able to keep themselves alive upon nothing. While even they will be benefited, for they will seek some other labor, perhaps better suited to their peculiar capacities.—Eds.

FILLING TEETH.

BY G. H. P.

Although much has doubtless been written upon filling teeth, the subject is by no means exhausted. Others have written upon various modes of operating, it is our intention in the present article to describe briefly our manner of proceeding in cases where we find it necessary to destroy, amputate and remove the nerve, and to restore or build out any portion of the broken tooth. Our process will be understood by referring to the subjoined cut. After preparing the root for filling in the usual manner, we fill about one third from the apex A; then prepare it as for an ordinary pivot tooth, inserting a smooth gold wire, considerably smaller than the canal prepared; around this, plug as solid as possible; after removal, insert in its place a gold screw-cut pivot C, nearly as long as the crown of the tooth to be restored; this gives great strength, and the cut in the pivot holds firmly the gold. D represents the screw pivot.



After filling the wells or pits in the strong portion of the tooth, we wind around the screw a small rope of annealed foil, then proceed to restore and finish, using small pieces of foil, Nos. 4 and 6, annealing as we use it, with very small serrated instruments. We have had great success in similar operations to the one above described, and would recommend them in preference to the insertion of artificial teeth, where the latter can possibly be avoided.

As the following letter contains some information on dental matters, and is quite interesting, we give it in full.—Eds.

Buenos Ayres, July 14th, 1858.

When I took leave of you in early spring, girding up my loins for a circuitous journey hither, you opened to me your views concerning the establishment of an Odontalogical Review, or Journal of Dentistry, requesting at the same time communications from myself. If no crisis in dentistry has happened since we shook hands at the Cunard Dock, in Jersey City, I presume your undertaking has been commenced—at all events, I will devote half an hour of leisure to the pleasant duty of correspondence.

Having dallied in England a little longer than I at first intended, it was nearly May before I left Southampton for my destination, and I have been here only a week, having staid a few days at Montevidéo. Of the voyage I should be glad, at greater leisure, to send you an account; but I must pass it over with the mere mention that everything went well, and that the only *contretemps* in the entire passage was a touch of the *pampero* wind as we were entering the Plata.

I staid a week at Montevidéo, and arrived here but a few days ago. The season is quite favorable for a new comer, so far as temperature is concerned, as this is the Buenos Ayrean midwinter. The sanitary state of the city is very satisfactory, and the temperature is such as you experience in New York in the latter part of May. A thermometer (Fahrenheit) which I brought with me has varied between 57 and 69 degrees above in the shade.

My time is far too limited to permit of an attempt at description of Buenos Ayres; besides, the city is almost as well known to readers now-a-days as Williamsburgh or Hoboken to New Yorkers, and I will therefore hasten to set down some professional jottings.

You will naturally desire some dentistic particulars, but like Channing's Knife grinder, I must exclaim:—"Story? God bless you! I have none to tell, Sir!" for the fact is, the South Americans are quite illiberal in odontalogical matters. They persist in having sound teeth in their heads! The display of ivory made by lowest classes is an enviable one, and the *gauchos* of the Pampas show "sets" sufficiently true, regular and white to enamor the least impulsive of our brethren who stay at home at ease.

It may be that I have yet seen only favorable specimens of these wild horsemen, but such as have passed under my notice were really magnificent. The *gauchos*, or men of the country, whose only occupation is the care of the immense herds of cattle that roam over the interior of the State, are really a study for the anatomist. They pass at least one half of their lives on horseback, and become completely misshapen in consequence. Scarcely one in ten but is frightfully bandy-legged, although when mounted he may look a perfect Pampa Adonis; and they acquire a peculiar stoop of the neck which I have never seen even in the most constantly mounted cavalry regiments in Europe. These men live almost entirely on animal food, sometimes subsisting for weeks on jerked beef and the muddy water which is found at rare intervals on the Pampas, but all I have seen were in robust health, and I am told they are subject to a very limited class of diseases while on their native plains. As might be expected, their system is prone to fistula, produced by their perpetual equitation, and for some unexplained reason, I am informed by an English physician, heart diseases are more common than any other malady. It is very seldom, even in case of severe wounds, that these picturesque horsemen resort to a physician;

cowdung and urine are favorite vulnerary remedies with them.

I visited this morning, in company with a New York acquaintance, the British Hospital, a charitable institution admirably conducted, and devoted principally to the reception of invalids from British vessels, but many of our own seamen find a comfortable resting-place and scientific treatment here. There is also a French Hospital here, and, I believe, an Italian. The British Hospital has been in existence for many years, and is a blessing of the first importance to the sick of British vessels. The building itself is well constructed, with airy wards, &c., and the attendant medical men appear to be profoundly versed in the different branches of medicative science. The admissions in the years 1856–1857 were 134, and in 1857–1858, 133. My memorandum of the number of deaths has been mislaid, but I believe it was about 40, among which some 15 from venereal disease. One poor lad of 19, a British man-of-war's-man, was pointed out to me, as suffering from odontalgia ensuing upon excessive salivation previous to his entering the hospital. He was much emaciated, and, although odontology is not a speciality with myself, I took note of his case for your benefit. The teeth presented the appearance usual after severe cases of salivation, and the dull wearing pain was irregularly intermittent. The treatment he was undergoing, (he had been but three days in the hospital), was a combination of the European with the native system. Frequent warm baths were administered, and sarsaparilla in the usual manner, besides which a native purgative was employed with sensible effect This simple is the *Papita,* (little root), also called *papita purgativa,* which is found in abundance upon the Pampas of this state. It is a small bulb about the size of an onion, which I have only examined as yet in the dried state. The Gauchos chew a small portion of the bulb, when an aperient is necessary, but physicians here administer it in the form of tincture, and in powder. Ten grains are a sufficient dose for an adult, though fifteen are occasionally administered, and its effects are both certain and rapid. Five grains of papita, *bis in die*, have been taken by the young sailor, and have ameliorated his condition in connection with the bath.

Allthough the Gauchos of this region seem to be distinguished by the whiteness and regularity of their teeth, I am informed by an English physician who has recently returned from Asuncion, (the capital of Paraguay), that some tribes of that country, who occasionally visit the capital, have quite a different character. Their teeth are discolored, rickety and sometimes black. He attributes this circumstance to their reported practice of eating clay. The soil which they devour is a rich, ochrey earth, iron-brown in color, and appears to be digested without difficulty. Very little is known of the habits of these Guaycurus, but it is believed that they mix the clay with the leaves of the *yerba*, (ilex Paraguensis) or Paraguay teatree and the fact is sufficient to explain the discoloration of their teeth, especially as the same habit in Georgia is known to produce a like result. I believe that the natives of Sumatra and other East Indian Islands have the same proclivities. The Quichua Indians of the interior provinces of the Argentine Confederation, chew *coca*, (the leaf of an erythroxylon), but it only effects the dental system when mixed, as is usually done, with lime. It then has a deleterious effect upon the teeth.

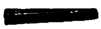
I am to visit the hospital again to-morrow, (Saturday), but this letter, which is going to Montevidéo, must leave to-night.

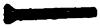
From the low, marshy country surrounding Buenos Ayres, one would be inclined to expect that ague and intermittent fevers must prevail, but I find on the contrary that they are scarcely known. The exanthemata are more frequent, and there is a predisposition in the population to pustulous fevers. The Vaccine Establishment, however, keeps down small-pox, which was formerly very destructive.

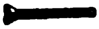
The principal diseases among the foreign population are pneumonia and phthisis, owing to the humidity caused by the northerly winds, which sweep down over the marshes and fens of the Paraná of Paraguay. Flannel is universally worn by the natives as a protection, even is the warmest weather. Pulmonary affections are, nevertheless, not uncommon even among born *Porteños*. The use of Coca as a remedy is gradually becoming extensive. I have no time to enter into detail, and hastily wind up. Truly yours.

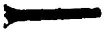
W. S. F.—M. D.

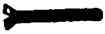
Messrs. Editors, Knowing that your valuable Journal is the receptacle of all the new improvements, and theories pertaining to our useful art. I wish to make a few suggestions which if you think proper you may give a place, and if they serve to call the attention of those interested I shall have accomplished my object. Perhaps there is not one in the whole catalogue of Dentists, from the most scientific down to the *Pack Pedlar*, but has had more or less trouble from teeth cracking while undergoing the process ol soldering, even though they had taken every precaution at their command. I know that in many cases it is the result of carelessness, or want of proper knowledge of that branch of work, but I think that in very many cases it is owing to the manner or style of the teeth as they are at present manufactured. Now I am no manufacturer of teeth, but I have to mount them for Dental work, and have some idea how they ought to be made to prevent them from being so liable to crack while being soldered. In the first place the great mass of teeth are *too thin* to be of suitable strength. Secondly the Lateral (Superior) Incisors are smaller in proportion than any of the rest, and with me more frequently break; they are too narrow for the centrals, and in many cases they are so narrow that the *pivots* take nearly all the strength of the tooth. Thirdly, I think there is a fault in making the pivots, to which I would call special attention. I notice that the pivots in many teeth are conical shaped, growing gradually large as they penetrate the tooth as seen in fig. 1, while others have distinct heads as in fig. 2; others with hollow heads as in fig, 3; some have the end of the pivot flattened as seen in fig, 4; while yet I have seen some with the end of tivot in the tooth split as seen in fig. 5; which I think would be preferable to any of the above. At the same time I would suggest the trial of the hollow pivot, made from hollow wire, with the end in the tooth *enlarged or flanged*, as would be found best on trial.

1


2


3


4


5


This ends the suggestions I would make, leaving it to you or some one else to speak of their merits or demerits as the case may be. Yours in haste,

C. H. ECCLESTON,
OXFORD, N. Y.

THE DENTAL STATE OF THE BRITISH ARMY AND NAVY.

We subjoin accommunication made to the "London Morning Post," of Aug. 3d, in reference to the condition of the teeth of the British Army and Navy. The suggestions containen in this article are worthy of the attention of the public of our own country; not so much as regards the Army and Navy perhaps, but in connection with the public themselves, and we would take this opportunity to make a suggestion which has presented itself to us and which we think deserving of consideration. It is doubtless known to our readers that there are in all large cities public dispensaries where the sick poor can resort for advice and medicine, free of expense. We would suggest, that in connection with these dispensaries, which are supported out of the city treasury, there should be appointed dentists for the poor, paid by the city, to whom all could repair in cases of dental disorders, and find relief gratis. We are of opinion, also, that a dentist should be attached to every regiment of soldiers, and to every man-of-war, for it is not necessary to explain here how many disorders can be traced to diseased teeth, and could be treated with greater propriety and greater success by a dentist than by a surgeon. We throw out these hints for the benefit of the public, hoping that they may take root somewhere : and with this preamble we present the above-mentioned communication.—Eds.

"TO THE EDITOR OF THE MORNING POST.

"Sir :—In the camp of Chalons a circular has been issued by the chief of the medical staff, Baron Larrey, giving instructions to the officers regarding the sanitary condition of the troops, and, amongst other things, directing their attention in particular to see that the teeth of the soldiers are kept clean, and ordering that brushes should be supplied for that purpose, and that the requisite time should be allowed to the soldiers. In your columns of last year there appeared some able letters of a dentist on the utter neglect of the teeth of our soldiers and sailors; and an offer of the Dental College, comprising the most skilful of the profession, gratuitously to attend to the soldiers in barracks or camps, and to give instructions to the army and navy surgeons, was published. The highest medical authorities on the necessity of such attention were quoted. Gen. Sir De Lacy Evans was foremost in giving the suggestion his most active support; and for a short time it really appeared that the dark cloud which bars entirely the slightest glimmer of common sense from our military institutions was about to break. A circular was despatched to the regimental surgeons, with the information that the teeth of our soldiers were of great value, and with this conclusive effort the energies of the military authorities were exhausted. It was in vain the army surgeons pointed out, in answer, that it was a fact of which they had long been aware, but that they were not supplied with the requisite instruments; that they had no power over the soldiers unless in the hospital; and that, though instruction by the best masters was offered, they were debarred from accepting it: the teeth of the soldiers were allowed to rot; but while our authorities are thus inactive, the French circular proves how sensitively alive our warlike neighbors are to all that concerns their army. The Commander-in Chief has lately startled us by the assertion that, however impressed he may be with the evils of the mismanagement which decimates our army, he is powerless to remedy them; the responsibility therefore rests upon

Gen. Peel and Sir John Pakington, and we pause to see, if with this circular of the French army before them, this disgraceful neglect to our service is still to be continued.

"July 30, 1858. "Chirurgicus."

ADJUSTMENTS OF CLASPS BY DR. F. H. C.

The great perfection to which we have arrived in adapting atmospheric pressure plates, has, I fear caused us to neglect in some degree experiments having in view improved modes of adapting clasps where they are required.

I suppose it safe to say that clasps embracing teeth, are almost always injurious to them in some degree. I have found however that there is a great difference in their injurious effects owing to the different modes of adapting them. The teeth are injured by them in several ways as is well known. Firstly by causing them to decay, and secondly by drawing them slowly from their sockets. They are also sometimes seriously injured by narrow clasps cutting a groove in their necks.

It is generally believed that the decay is caused by the accumulation of impure matter between the clasps and the teeth which they embrace. This being so, would it not be the part of wisdom to so shape the clasp as to allow as little room for deposits as possible? the answer may be that teeth are more apt to decay in very narrow spaces than in wider ones.

I hold it to be *absolutely* impossible to fit clasps around natural teeth so closely as to prevent them from decaying when covered, and I believe it unwise to attempt to do what is *plainly impossible.*

Wide clasps have been in great favor for many years owing to the greater firmness with which they hold the plate and their lesser liability to wearthe natural teeth to which they are attached. After much careful investigation and close observation I am compelled to believe that wide clasps do more mischief than properly attached narrow ones.

My opinion is that where only a perpendicular support is necessary the tooth should be only touched in two or three places, which places should be on the sound enamel if possible. The remaining portion of the clasp should be as far removed from the tooth as possible, and be so narrow and well rounded as to allow of the free movement of all soft substances ever found in the mouth, around and between it and the teeth to which it is attached.

The injury to the tooth is not usually found directly beneath the clasp where it is in contact with it, but nearer the gum, giving reason to suppose that the cause of decay is not from deposits of food, &c., but a secretion from the edge of the gum itself, rendered more unhealthy by the influence of the plate. I have often seen teeth much softened wherever the clasp covered them except at the points of absolute contact, and there they were polished and perfectly sound. In a few cases where there has been a hole through the clasp, an isolated spot has been found perfectly healthy and sound, while all that was covered has been more or less softened. Here is a large field for study and investigation, the younger members of the profession will do well to look into it. It is harder often to *unlearn* and to quit a bad practice than to acquire knowledge of a good one.

I must here take leave to say that the great progress which has been made in adapting artificial teeth is, I fear, doing much to lead the young practitioner from true dental surgery, and although no man can think more highly than I do of the superb dental mechanism that we now see, my admiration is mingled with exceeding regret that the talent which produces it has not found a higher aim in the preservation of the natural organs which are often sacrificed in the most ruthless manner to make room for artificial ones.

☞Where clasps must be used we think much of the method introduced a number of years since by a member of the profession in this city, which is to leave quite a space between the plate and clasp, allowing circulation. The band clasping the tooth high where the Enamel is thick and strong.—*Eds.*

AMERICAN DENTAL CONVENTION—FOURTH ANNUAL SESSION.

MINUTES.

First Day, Morning Session.

Convention assembled at the Melodeon, in the city of Cincinnati, on Tuesday morning, August 3d.

Called to order by the President, Dr. Taylor, at about 10 o'clock. Members present.

NEW HAMPSHIRE Dr. A. Blake, Sardinia; Dr. Frank Fuller, Portsmouth.

VERMONT.—Dr. M. Tefft, West Poultney.

CONNECTICUT.—Dr. W. Potter, Norwich.

NEW YORK.—Dr. L. W. Rogers, Utica; Dr. W. B. Roberts, New York City; Dr G. H. Perine, New York City; Dr. John Allen, New York City, Dr. L. F. Tremaine, Rome; Dr. H. Jameson, Jr., Lyons.

PENNSYLVANIA.—Dr. Robt. Vandervert, Pittsburg; Dr. J. Westbay, Pittsburg; Dr. W. M. Wright. Pittsburg; Dr. S. S. White, Philadelphia; Dr. A. W. Asay, Philadelphia; Dr. W. R. Greenlee, Meadville; Dr. F. J. Chandler, Rochester, Dr. J. B. Williams, Alleghany City; Dr. J. Murray, Beaver; Dr. J. McCalla, Lancaster,

VIRGINIA.—Dr. James Johnston, Staunton.

MISSOURI.—Dr. Charles Merry, St. Louis; Dr. A. M. Leslie St. Louis; Dr. Isaiah Forbes, St. Louis; Dr. S. Dunham, St. Louis.

GEORGIA.—D. S. Chase, Augusta.

MISSISSIPPI.—Dr. A. Berry, Raymond.

TENNESSEE.—Dr. B. Wood, Nashville; Dr. W. H. Morgan. Nashville; Dr. Bryan Cole, Memphis; Dr. C. F. Munster, Jackson.

KENTUCKY.—Dr. J. B. Lindsay, Maysville; Dr. H. Munro, Lebanon; Dr. W. D. Stone, Lexington; Dr. S. Driggs, Lexington; Dr. D. Dougherty, Bardstowu; Dr. James Nourse, Cloverport; Dr. S. Tuttle, Shelbyville; Dr. J. W. Leatherman, Jeffersontown; Dr. Rogers, Shelbyville; Dr. H. McCollum, Augusta; Dr. Geo. P. Newlin, Danville; Dr. R. Peckover, Paris; Dr. B. J. Dudley, Louisville; Dr. J. W. Grant, Lancaster.

ILLINOIS.—Dr. W. W. Allport, Chicago; Dr. I. B. Branch, Galena; Dr. W. P. Kingsley, Freeport.

MICHIGAN.—Dr. P. S. Grimes, Kalamazoo; Dr. John Mansfield, Niles.

INDIANA.—Dr. David Cloud, Green Castle; Dr. David Marshall, Carthage; Dr. M. H. Shadoan, Rockport; Dr. J. P. Ulrey, Rising Sun; Dr. W. R. Webster, Richmond; Dr. S. M. Goode, Madison; Dr. J. Hood, Greensburg; Dr. John Keely, Brookville; Dr. George Lupton, Shelbyville.

OHIO.—Dr. C. Palmer, Warren; Dr. A. E. Lyman, Newton Falls, Dr. R. McDowell, Wooster; Dr. S. Brown, Piqua; Dr. Wm.

B. Ingersoll, Oberlin; Dr. C. M. Kelsey, Mt. Vernon; Dr. George Watt, Xenia; Dr. S. Clippenger, Bellefontaine; Dr. W. H. Atkinson, Cleveland; Dr. J. Sanford, Chillicothe; Dr. H. A. Smith, Oxford; Dr. J. F. Siddall, Oberlin; Dr. J. Bercher, Findley; Dr. J. L. Dunlap, Chillicothe; Dr. Alfred Terry, Norwalk; Dr. F. R. Rehwinkle, Chillicothe Dr. Wm. Hall, Piqua; Dr. C. Sill, Franklin; Dr. D. F. Dyche, Lebanon; Dr. Wm. E. Dunn, Delaware; Dr. E. Conway, Dayton; Dr. G. W. Keely, Oxford, Dr, D. W. Harris, West Liberty; Drs. Jas. Taylor, Chas. Bonsall, S. L. Hamlen, B. D. Wheeler, J. Richardson, J. Taft, G. L. VanEmmen, E. W. Ruth, Jas. Erwin, Cincinnati.

The records of the last annual session of the convention, were read by the Secretary and approved.

Dr. Taft, chairman of the committee appointed last year, to prepare business for this Convention. made the following report:

I. President's Address.
II. Election of Officers.
III. Report of Committees.
IV. Reading original papers and Essays.
V. Discussions:
  1. The best means of securing good teeth.
  2. The best means of preserving the teeth.
  3. Treatment of exposed nerves.
  4. Mechanical Dentistry.
  5. Exhibitions of Implements, etc.
  6. Filling Teeth.
  7. Miscellaneous.

Report adopted.

The President presented a letter from the Vice President, Dr. Tucker, of Boston, giving his reasons for being absent, and expressing his regret, that he could not be present at this Convention, which was read and ordered to be placed on file.

The President then made a short and impressive address, which was well received.

The Convention then proceeded to the election of officers. On the first ballot for President there was no choice. Second ballot, Dr. Forbes of St Louis 29 votes, Dr. Allport of Chicago, 19.

On motion of Allport, Dr. Forbes' election was then made unanimous.

Dr. Rogers then offered the following:

Resolved, That a Treasurer be appointed separate from the Recording Secretary, who shall, in addition to the usual duties, keep a record of the names of all the members of the Convention, and collect such assessment, as may be made upon each.

Adopted.

On the first and second ballot for Vice President, there was no choice. On the third ballot, Dr. Rogers received 28 votes, Dr. Allen, 25. On motion, the election of Dr, Rogers was made unanimous.

On motion,

Resolved, That the remaining officers be chosen, *viva voce*.

Dr. J, Taft of Cincinnati, was chosen Recording Secretary. Dr. D, S, Chase of Augusta, Ga,, Corresponding Secretary. Dr, W. B, Roberts of New York, Treasurer.

On motion adjourned to 3 o'clock, P. M.

FIRST DAY, AFTERNOON SESSION.

Convention met pursuant to adjournment. Record of morning session was read and approved.

On motion, Drs. Allport and D. S. Chase, were appointed a committee, to conduct the President elect to the chair. On taking the chair, the President made some appropriate remarks,

On motion of Dr. Wright, of Pittsburg,

Resolved, That the thanks of this Convention be tendered to Dr, James Taylor, our retiring President, for the able and impartial manner in which he has presided over its deliberations, as well as for his spontaneous address on retiring, which has embraced so much interest and value to the profession; and especially, for his remarks on the history and progress of dental education, in this country, during the past thirty years,

On motion of Dr. Perine, of New York,

Resolved, That the thanks of this Convention be tendered to the retiring officers. for the very faithful and efficient manner in which they have discharged their duties, during the past year.

On motion,

Resolved, That an executive committee of five, be appointed by the chair, to serve during the next year.

Committee—Drs. Allport of Chicago, Wright of Pittsburg, Leslie of St. Louis, Fuller of Portsmouth, N. H., and Stone of Lexington, Ky.

On Motion of Dr. I. B. Blanch,

Resolved, That the Treasurer be requested, if practicable, to procure a stenographic reporter, to serve this Convention, during its present session, and pay the same from the funds in the treasury.

On motion of Dr. J. Taylor.

Resolved, That in the opening of each subject for discussion, written remarks shall first be in order, and that the gentleman opening the discussion on any given subject, be permitted to close the same.

The executive committee were requested to examine the books and vouchers of the Secretary and Treasurer. After the examination they made the following report, viz:

We, your executive committee, having examined the vouchers of the Secretary for the past year, find the same correct, and report a balance remaining in the treasury, of $262.96.

W. W. Allport, W. D. Stone,
W. M. Wright, F. Fuller,
A. M. Leslie.

On motion of Dr. Wright,

Resolved, That when we adjourn, we adjourn to meet to-morrow morning at 8 o'clock, at the lecture room of the Ohio Dental College.

The first topic for discussion, viz: "The best means of securing good teeth," was now announced by the President, and papers pertaining to it called for. Drs. Richardson and Ingersoll, read interesting papers upon the subject; after which the subject was fully and ably discussed by Drs. Atkinson, Berry, Perine, Rogers, Wright, and Watt.

Adjourned to meet to-morrow morning at 8 o'clock.

Wednesday Morning, August 4th. 8 o'clock.

The Convention met according to adjournment, at the lecture room of the Dental College. The minutes of the preceding session, were read and adopted.

The discussion of the same subject was resumed; remarks made by Drs. Fuller, Roberts, Rehwinkle, Kelsey, Stone, Goode, Chandler, Taylor, Rogers, of Cincinnati, Murray, DeCamp, McKellops, Dunham, and Taft.

The second topic, "The best means of preserving the teeth," was taken up and discussed by Drs. Watt, Taft and Taylor.

Adjourned to meet at same place, at 3 o'clock, P. M.

AFTERNOON SESSION.

The Convention met as by adjournment. The minutes of the morning session were read and approved.

The third topic, "Treatment of exposed nerves," was taken up and discussed by Drs. Atkinson, Branch, Asay Wright, Grant, Taft, Ingersoll, Johnston, Stone, Berry and others.

A dispatch was received by the President, announcing the death of Dr. C. O. Cone, of Baltimore, on the 1st of August.

Upon the announcement of the demise of Dr. Cone, on motion.

Resolved, That the Convention, as a mark of respect now adjourn.

Adjourned to meet same place, to-morrow, at 8 o'clock.

DENTAL COLLEGE, THURSDAY MORNING, 8 O'CLOCK.

Convention met and was called to order by the President. The minutes of the preceding session, were read and approved.

Dr. Wright offered the following:

WHEREAS. It is the custom of the several railroad companies of the United States, to permit persons, passing to and from Conventions,—religious and secular—upon the payment of half fare; Therefore,

Be it Resolved That the Executive Committee of this body, be authorized to represent our interests to the Presidents of the various railroad companies, in the matter of the aforesaid reduction of fare, so that members of the dental profession, who may desire to attend the Convention next year, may have the benefit of such arrangement, if made.

The topic last under discussion, was resumed by Drs. Forbes and Kelsey, when the discussion upon that subject was closed.

On motion of Dr. Perine,

Resolved, That we now decide upon the place for the next annual meeting of the Convention.

Dr. Perine suggested Buffalo, N. Y.; Dr. Taylor suggested Niagara Falls, N. Y.; Dr. Atkinson suggested Cleveland, O.

On motion, it was unanimously

Resolved, That when we adjourn, it be to meet on the first Tuesday of August, 1859, at Niagara Falls.

On motion of Dr. Allport,

Resolved, That a committee of one be appointed, to make all necessary arrangements for said meeting, and to report to the profession, previous to the meeting.

Committee—Dr. Rogers, Utica, N. Y.

Adjourned to meet at 2½ o'clock, P. M.

AFTERNOON SESSION.

Convention met at 2½ o'clock, P. M. Minutes of the morning session read and approved.

Topic No. 4, "Mechanical Dentistry," was called up for discussion.

Dr. Fuller described, by request, his method of making partial dentures, to be maintained by atmospheric pressure.

Dr. J. Allen read a paper on "Artificial Dentures," after which Dr. Roberts of New York, addressed the Convention upon the subject of continuous gum work.

On motion of Dr. Chase,

Resolved, That we now take up the subject of "Filling Teeth."

Which was discussed by Drs. Atkinson, Allport, Stone, Rogers, Dunham, Branch, Tuttle, Wright, and others.

On motion of Dr. Taylor,

Resolved, That the discussion on filling teeth, be now closed, and that twenty minutes be appropriated to the discussion of "local anæsthesia."

At the expiration of which time, "Miscellaneous Subjects" were taken up.

Dr. Wright described the treatment of a case of irregularity.

By Dr. McKellops,

Resolved, That the Convention appoint a committee of five to memorialize Congress, on the necessity of appointing dentists for service in the regular army. The committee to act in concert with that of the "Western Dental Society."

Committee—Dr. James Taylor, Cincinnati, O.; Dr. Geo. Watt, Xenia, O.; Dr. Frank Fuller, Portsmouth, N.H.; Dr. W. H. Atkinson, Cleveland, O.; Dr. Stone, Lexington, Ky.

On motion,

Resolved, That the Treasurer be authorized to pay the Janitor of the Ohio Dental College, ten dollars for his services to this Convention.

Dr. Allport presented a case, in which a full set of continuous gum teeth, worn by a lady, without any peculiarity of constitution, produced a peculiar and excessive disease of the entire buccal cavity. Dr. A. asked for information on the subject, its cause, treatment, etc.

Dr. Rehwinkle described an interesting case of necrosis of the inferior maxilla.

Dr. Osmond described a case of soldering lower sets of teeth, particularly applicable to silver cases.

Dr. Rogers of Utica, N. Y., reported a case of diseased mouth, similar to that reported by Dr. Allport, by wearing a gold plate. Was unable to give any satisfactory definition of it.

Dr. Watt presented a surgical case from Dr. Allport, for which see report of discussions.

Dr. Vandervert described his method of welding platinum, and also gave a demonstration, welding some platinum, perfectly.

Adjourned to meet to-morrow morning at 8 o'clock.

FRIDAY MORNING, 8 O'CLOCK.

The Convention met at the College. The minutes of last meeting were read and adopted.

A paper was read by Dr. Murray of Pa., upon "Diseased Antrum;" ordered to be printed. Also a paper was read by Dr. McCalla, on "Lateral Pressure of the Teeth, considered in relation to obscure Nervous Affection."

Cases of diseased antrum was described by Drs. Kelsey, Allen and Wright.

Case of irregularity by Dr. Wright.

A case of osseous tumor was described by Dr. Siddall of Oberlin, O.

A case of protrusion of the inferior maxilla was reported by Dr. McKellops, and suggestions called for in regard to the remedy.

On motion, the discussion upon filling teeth, was resumed for one hour; remarks were made by Drs. Palmer, Rogers, Fuller and Forbes.

Dr. Atkinson introduced to the Convention, Dr. Brainard of Cleveland, who made some appropriate remarks.

Dr. Chandler described the treatment of an obstinate case of hemorrhage.

The report of the Investigating Committee was read by Dr. Taft, and adopted, and the committee requested to prosecute the enterprise.

REPORT OF THE DENTAL INVESTIGATING COMMITTEE. —Your Committee would most respectfully report,— that immediately after the appointment, the committee organized by selecting Dr. A. Blakesly of Utica, N. Y., Chairman; Dr. T. L. Buckingham of Philadelphia, Pa., Secretary; and Dr. J. Taft of Cincinnati, Treasurer.

Your Committee promptly issued some four thousand circulars, setting forth the aims and objects of the enterprise briefly, and soliciting the aid and cooperation of the profession, so far as they are disposed. These were sent to all the members of the profession in the United States, so far as the committee could obtain their names and localities. Some of these were responded to encouragingly, promising co-operation, and making small remittances; all regretting that they could not now do more, and promising more in the future, if the enterprise was sustained. Many others wrote encouragingly, but acted discouragingly, or rather, we were discouraged because they did not act at all. All, however, had much to say in regard to the peculiar character of the times, financially considered, and we suppose that a much greater amount would have been appropriated, had there not been in fact, much reality in the cause assigned.

Your Committee also made some effort to find some person or persons, whose services could be commanded, to conduct experiments and investigations, as contemplated in the original plan, From the inquiry made, we think there would be no difficulty to procure such a person. The committee were not fully warranted to make an engagement with any one, till the amount requisite for payment, could be commanded. We think this could have been done long before this, had not the financial troubles existed. The necessity for the prosecution of the work is now just as great as it has been at any time past, and your committee is encouraged to believe, that the profession only require to know that the prosecution of the enterprise is a fixed fact, that they will sustain it. There has been pledged and paid over $200. The expenses, some $60, have been paid out of this. Your Committee request direction from this body, as to the course to be pursued in future.

J. Taft, A. Blakesly, T. L. Buckingham.

An instrument called "Universal Spiral Spring Drill," was exhibited to the Convention, by Dr. Merry of St. Louis, who is the inventor. A vote of thanks was tendered to Dr. Merry. It was esteemed by all as a very valuable instrument. It was requested that instruments of this kind be manufactured, and put into market immediately.

A resolution of thanks was extended to the members of the profession, of Cincinnati, for their hospitality, manifested to the members attending the Convention.

A resolution of thanks was also extended to the Faculty of the Ohio Dental College, for the use of their room, for its sessions.

Adjourned to meet on the 1st Tuesday of August, 1859, at Niagara Falls. J. Taft, Secretary.

Dr. F. Fuller was appointed to report on Conway's "Dental Lamp and Furnace," and at an informal meeting, presented the following report:

Resolved, That the principle of Conway's patent "Lamp and Furnace," is correct, and that it may, in our opinion, be made highly valuable for dental purposes, by increasing the capacity of the furnace.

F. Fuller, Committee.

FOURTH ANNUAL MEETING OF THE AMERICAN DENTAL CONVENTION.

GENERAL REMARKS AND DISCUSSIONS;

The fourth annual meeting of the American Dental

CONVENTION, was held in Cincinnati, the 3d, 4th, 5th, and 6th days of August, 1858.

In accordance with the report of the Executive Committee, the address of the President being in order, Dr. James Taylor of Cincinnati, the acting President, stated that, by the dispensations of Providence, he had not been able to prepare a written address, as he fully intended to do. He, however, proceeded to deliver an extempore address, which was listened to with much interest, and which he has not been able to write out for this number.

The elections for officers occupying the remainder of the morning session, the Convention adjourned to 3 o'clock, P. M.

FIRST DAY—AFTERNOON RESSION.

The retiring President appointed Dr. Allport of Illinois, and Dr. Chase of Georgia, to conduct the President elect to the chair. He was introduced in a few appropriate remarks by Dr. A., and, on taking the chair, made a brief and appropriate address, of which the following is but a mere outline:

He thanked the Convention for the honor just conferred—he regarded it highly as an honor—bestowed on himself individually, but felt much more gratification in viewing it as a compliment to St. Louis, of which city he was representative. He would make a few remarks on this Convention. It was founded by the great and good members of our glorious profession; and one of its leading objects was to demonstrate the advantages to be derived from local associations. In this convention each member is responsible for his own moral and professional standing—each takes the responsibility of his own remarks; but it is not so in local associations. There the society is responsible for the moral character and professional attainments of its members. He alluded feelingly to the late sad bereavment of the retiring President who had just buried his wife.

He remarked that it would be easy to preside, if all would co-operate with him. We must consider ourselves one. I want your experience—We can perceive each other's weak points, and give support where needed; and we can perceive each other's strong points, and take advantage accordingly. To the beginner—the rising student—he would say, that as age advanced, and experience extended, he would find himself still a student. He advised all to be, in the strictest sense honest—*honest*. Even if adopted from policy, honesty is profitable. The physician's patients and mistakes are often buried together; our patients live to complain, and to exhibit the evidences of our lack of skill, or want of honesty. The best operators may fail, but still he thought he could tell, by inspection, when an operation had been *honestly* performed. A new student, he said, was apt to think himself about the best dentist in existence; but after a time, he recovered from such fancies.

Essays being called for and none presented, the President announced as now in order, discussions on the general topics reported by the Executive Committee. Before discussion began, it was resolved that on each topic, written remarks be first in order.

I. *The best means of securing good teeth.*

Written remarks being called for. Prof. J. Richardson read a paper, which was followed by the reading of another by Dr. W. B. Ingersoll, of Ohio.

Dr. W. H. Atkinson remarked that this was a common-place matter, and should be bettcr understood. He said the best means of producing a healthy person, are the best means of securing good teeth. Healthy individuals are likely to be produced only from healthy children, begotten by healthy parents, under proper circumstances. But, as it is mostly impracticable to begin so far back, we must attend to minute matters as they present themselvs. The primary teeth should be carefully preserved, that the permanent may be healthy. Many of the profession, he feared, were faulty in this; and parents are extremely careless in the matter. The first permanent molars were often lost, by this want of care, as they were mistaken for primary organs, and were left to their fate. He advocated filling the primary teeth before the pulp is exposed. His experience was that when the pulp of the deciduous organ is lost, its roots are not normally absorbed, to make way for the permanent tooth.

Dr. Berry said the best way to avoid sickness, is to keep well. But in securing good teeth many things must be attended to. We wanted good stock to begin with. The parents should be healthy—and the grand parents—as hereditary pre-dispositions often jump a generation. To be safe, the dust from which we are created, must be right. It is important, he said, to inquire if, in ordinary food, we get enough of phosphate of lime, to properly develope the teeth and bones. Unfortunately, fine flour contained but little of it. It is mostly given to the horses and hogs, in the form of bran. If we would diet as Adam and Eve did, we might do better. Beef and pork, he supposed, contain but little of it. He preferred the bill of fare published in Genesis i. 29. He would make beef-steaks of pears, plums, peaches, etc., and the bread, he would make from the grain taken "just so."

Dr. Perine said, that dental disease is not new; but it had probably increased, though he knew not why. He had tested the medicinal use of phosphate of lime in his own family, and found it satisfactory.

Dr. Rogers, of Utica, said it was not worth while to mention sound teeth as an argument against improper marriages. Stronger arguments were constantly brought to bear, yet they had no influence as long as people married according to their tastes and not their judgments. He did not believe that even well formed teeth would ordinarily last through life. He illustrated this idea by the fact that the teeth of the English are good when they come to this county, but soon degenerate, like those of the natives. It would not do to attribute bad teeth to any one cause. He had theories but had little confidence in them.

Dr. **Wright** said it was difficult to determine what is practicable. He had practiced twenty years and was still at a loss. People will marry "in spite of their teeth." If he had all the match-making for two or three centuries, he thought he could a race with good teeth. He believed bad teeth are often inherited. He has lost the same number of teeth as his mother, and the positions of those lost, exactly correspond. He could refer to a number of similar cases. This tendency, he thought, could not be prevented. He was at a loss to say when a parent inquired what a child should eat. He did not believe that sugar injures the teeth. He did not believe that decay of the teeth always begins externally. He thought it was as frequently internal iu its origin as external.

Dr. **Watt** remarked that though he differed with some who had preceeded him, yet he was much gratified with the remarks offered. It was important, he said, to notice two general points. The teeth should be properly developed; and they should be properly protected during development. He did not believe in internal decay of the teeth, and thought it would not do to lose sight of the chemical view of the question. No tooth is so badly developed that it will not fall to pieces spontaneously, and none so well that it can successfully resist the action of chemical agents, liable to be brought in contact with it. A well organized, solid tooth, however, would much better resist chemical action, than one otherwise constituted. It was important, then, to pay attention both to mother and child; and this he considered a *practical* question, and practiced accordingly.

SECOND DAY—MORNING SESSION.

The first subject, the best means of securing good teeth, being continued, Dr. **Frank Fuller** remarked, that it was a difficult and interesting question. If we do what we can for the health of the mother, that is all we can accomplish in this direction. He could scarcely understand what was claimed for the phosphate of lime, and would hardly administer it in a state of health, even if the mother's teeth were defective. He recommended a healthy regimen. Bad teeth, he said, were not usually found among the active, laboring classes, but with those who were confined to bad air, and led artificial modes of life. But, when the period of eruption arrives, much may be done. The doctrine of internal decay, as suggested yesterday, he considered altogether unsound. The diet, he said, was very important. The Irish, whose diet is principally potatoes, and who lack animal food, have very brittle teeth. He thought this evidenced a lack of earthy matter in the teeth. An intelligent German, in conversation with him, remarked that, his teeth being good when he came to America, but decaying soon after, he imputed the defect of the teeth in this country to the quality of food used. In Germany he used hard food, which kept the teeth clean, and they remained sound; here he used soft food, and his teeth decayed. He, (Dr. F.), thought the climate had less to do with the decay of the teeth, than the style of living.

Dr. **Atkinson** inquired if Dr. F. thought that the brittleness found in the teeth of the Irish, was produced by defect of earthy matter.

Dr. **Fuller** said that was his opinion.

Dr. **Atkinson** thought it arose from a defect of gelatine, and a relative excess of earthy material.

Dr. **Roberts** remarked, that much had been said of constitutional influence, that bad teeth are hereditary, etc. The doctrine may be true to some extent, but not so far as some might suppose. A pure African has a good constitution, but by mixture with other races, it degenerates. The population of the United States is composed of a mixture of races. These all differ in physiological characteristics. A mixture of these races causes a disproportion in the form and size of the teeth and jaws. These thoughts however, he said were theoretical, not practical. He would not tell a lady she had married the wrong man. He would take as good care of the child's teeth as possible. Cleanliness, not only of the mouth, but of the whole body, was important. He did not believe in internal decay as suggested yesterday. The enamel being placed on the outside, indicates that the danger is from external sources. It extends only to the gum, then another substance acts as a protector, and who, he inquired, ever heard of caries attacking the roots of the teeth?

Dr. **Tefft**, of Vermont, stated, that through his brother, a foreign missionary, he had some knowledge of the teeth of the Africans, in their native country. In their barbarous state their teeth are good; but, when introduced to civilized life, they decay. He remarked that on the east side of Lake Champlain, the teeth are attacked with "black decay," while in western New York and Michigan, the white is the prevailing type.

Dr. **Rehwinkle** said, that if the health were perfect, there would be no decay of the teeth. Uncivilied nations live more in accordance with nature. Decay of the teeth was evidently a chemical decomposition. Cleanliness was very important. He thought the use of lime-water and prepared chalk, as prescribed by Dr. White of Philadelphia, a good suggestion. The constitution of the child might be reached with advantage, sometimes through the mother. He thought an excess of earthy matter rendered the teeth brittle. In Ireland, he said, inflamation of the gums is a prevalent disease. The constitution was often injured by malaria; and the fluids, being thus depraved, act injuriously on the teeth. In the malarious districts of France and Germany, he said, the teeth are not good.

Dr. KELSEY, of Mt. Vernon, remarked, that we cannot control marriage,—we must, therefore, take children as we find them. The health of the mother should be carefully watched, and she should have a healthy diet; but after all, cleanliness is the great thing. He advocated filling the primary teeth, and maintained the chemical theory of decay. Both sets of teeth should be carefully watched, and the primary should not be prematurely extracted. He would not go into the mists of the internal decay question. It belonged to the physiologist rather than the dentist.

Dr. LYMAN, thought the whole subject belonged specially to the dentist. If physiology does not belong to dentistry, he would inquire, what does belong to it?

Dr. STONE said the predisposition to decay is evidently hereditary; but we could counteract the tendency. The constitution could be materially modified. He recommended friction of the gums, from the earliest infancy. His own teeth are defective, and his wife's too; yet his children, he said, have all good teeth. He referred to a case—a physician's daughter. Her teeth were sound at twelve years of age. At thirteen, there were twelve decays. She drank no water—used milk almost exclusively. Her salive was ropy, or tenacious. He directed her to drink water, use but little salt, *no milk*, no coffee. The ropy saliva disappeared; and the tendency to decay was corrected.

Dr. ROBERTS, advocated careful friction, or washing the gums in infancy. It usually prevented sore mouth, and promoted healthy dentition.

Dr. ASAY, considered cleanliness the important means. Early attention to the gums of infants, kept the mouth healthy, and rendered dentition easier. He recommended the use of a soft napkin, for washing and rubing the gums. The Irish have usually white decay, after they come to this country. He thought a large per cent. of the miseries of life, is due to neglected teeth.

Dr. **Branch** said, that to secure good teeth, we must secure a healthy constitution. Whatever is deficient in the system, should be appropriately supplied; and the temporary teeth should be retained as long as possible.

Dr. **Chandler** said; that the subject is beset with difficulties, but this should only impel us onward. The diet of both mother and child, he thought very important. He remarked, that, as a rule, in the South, house-servants have bad teeth, and field-hands good ones.

Dr. **Taylor** said, that science had already furnished us with a few leading facts. We know that there are certain elements in the teeth, and that certain articles of diet furnish these element. Then, different temperaments appropriate and use these elements according to their relative forces. The sanguine temperament, furnished with the same materials, would develope better teeth than the lymphatic. The temperament, however, might change, and the character of the teeth change with it. So far as the dental organs are concerned, he concluded there was nothing deleterious in our climate. The aborigines had good teeth, *even on the saltwater coast.* The constitution of the mother influenced that of the child. The blood of a child from a diseased mother, is impaired. An unhealthy mother was not, he said, a suitable or successful nurse. And here a practical question arises. If we can not impart a normal quality to the mother's milk, we can, at least, recommend that the child be supplied with a healthy nurse. He regarded the phosphate of lime, as an important remedial agent, in defects of the osseous tissues. It should be administered, in many cases, where it is deficient in the system. He spoke of its relative quantities in bran and flour, and thought the system would be better nourished by the use of the entire grain. He remarked that the constitution could often be braced up, till the structure of the teeth so improved that they could better resist disease. He remarked, that not only the character of the constitution, but even the state of the health could be ascertained by careful inspection of the teeth.

Dr. **Rogers** of Cincinnati, regarded this as a most important question, and said that whatever is done, practically to secure good teeth, must be accomplished in early life. Decay of the teeth resulted from defective enamel, or from vitiated fluids. As the enamel is all-important, our attention should be enlisted during the period of its formation; for it is not changed much after it is formed. The deleterious influence of malaria here, he observed, was similar to its influence in Germany, as described by Dr. Rehwinkle. What can be done to counteract the influence of malaria, he regarded as an important question.

Dr. **Murray** thought it was important to avoid mechanical injuries to the teeth. Even in early life, he said, the dental organs are used as a substitute for hammers, vices, pincers, etc. He said he was alarmed to hear that Irish teeth were bad. Being once in that country, and standing in need of teeth, he secured a deciduous set, as an experiment, which lasted him a few years. Being about to leave, and being told that the teeth furnished in that country were good, he secured a *second* set, which had lasted him till the present time. He thought, that by avoiding mechanical injury, and by cleanliness, even Irish teeth would last a good while.

Dr. **DeCamp** remarked, that the question seems to have as many horn's as Daniel's goat. An important step would be to make every mother a physiologist. The teeth, he said, are mainly developed before we have anything to do with them. It is important, he thought, to modify and improve public opinion. To carry out every process successfully, nature must have the material to work on, the tools to work with, and the ability to accomplish the work undertaken. It is our duty to inform the public on this matter; and if physicians will co-operate with, future generations will bless us.

Dr. **McKellop** said, that the good teeth of foreigners, seemed to be a favorite topic. He thought there was probably less difference between the dental organs of the old world and the new, than was generally supposed. In Europe, dentists are not so generally distributed as here; and, consequently, the teeth are not so closely observed. If chemistry causes the decay of the teeth, he thought it could also furnish a remedy. Why not, said he, have a chemical wash? He wished to know when gentlemen consider it proper to fill decidious teeth? He inquired if there was not danger of injuring the permanent organ.

Dr. **Dunham** said, this subject belonged more appropriately to the journals, than to a popular meeting. He said most diseases are hereditary, and were less dependant on local causes, than was generally supposed. His own teeth, he said, are good, though he is a dyspeptic. His brothers and sisters have bad teeth, though they are healthy.

Dr. **Wright** said, that to secure a healthy permanent denture, it was necessary to retain the deciduous teeth as long as possible. He would fill them when practicable. The objection to premature extraction is, that the jaw contracts; yet, if a deciduous tooth be so diseased as to affect the constitution, he would remove it.

Dr. **Allen** said we must be careful to avoid extremes. He was in favor of saving the temporary teeth by filling, when it can be done; but there was danger of injury to the permanent organs, by undue pressure. He had met such results in his own practice.

Dr. Taft said, the remark had been made, that it was proper to retain the deciduous teeth *as long as possible.* When they are not shed at the proper time, making due allowance for constitutional differences, and if the permanent teeth do not follow them directly, he would remove them. They should be retained till the right time; and should not be permitted to become deceased. However, it was often necessary to remove them. When decayed, and he thinks it practicable, he fills them. The pressure *need* be no greater, he thought, than in mastication. Within a year or eighteen months of the period of shedding, he would not consider it proper to fill them ; but, three or four years previous to shedding, the attachment is so firm that the pressure need not be dangerous. He considered it a very delicate matter to destroy the deciduous pulp. The parts around a tooth were less likely to remain healthy after the death of the pulp, especially around deciduous teeth. It was important to discriminate. In some constitutions he would not attempt the operation. Indeed, he would only occasionally destroy a dangerous pulp.

II. *The best means of preserving the teeth.*

Dr. Watt said, that good teeth being "secured," the danger to them arises from the presence of substances capable of acting chemically upon them.—These substances are to be found among the acids. It is true that mechanical injuries, and other causes, do very much facilitate the action of these agents; yet fracture of the enamel would be a thing of small moments, were none of these agents brought in contact with the tooth. The time was coming, and he believed it was nearly here, when the intelligent dentist would be able to tell precisely what agent produced any given case of decay. When this attainment is made, we can treat the mouth in a rational manner. It was evident, he thought, that many acids, capable of acting on the teeth, have no direct influence in producing dental delay. It was not the brief, accidental presence of acids in the mouth that causes decay, as we ordinarily see it, but the slow and prolonged action of those agents, in a diluted state. Those acids which produce dental decay, he thought, were brought in contact with the teeth by *secretion*, as when the functions of a secreting organ are depraved,—by *excretion*, as when the elements which compose them are in excess in the system,—by *fermentation* or *putrefaction*, as when particles of food are left to decompose in the mouth. All the four recognized varities of dental caries can be produced, or at least imitated, artificially, by the use of acids. For example, "white decay" may be readily produced by nitric acid ; and as yet he knew of nothing else capable of producing it. If a portion of muscular fibre be left to putrify, between the teeth, ammonia is invariably formed ; but, in the presence of ammonia and atmospheric air, nitric acid is always formed. White decay on approximal surfaces, was thus easily accounted for. Now, constant attention to cleanliness, would remove the particles of food, and also the secreted and excreted acids ; but something more, he said, was desirable. It would be well to prevent the formation of the acids. He illustrated this point by allusion to a little dog, chasing away the locomotive. His watchfulness was thus far successful, as it had done no damage; but if the little fellow could tear up the track and thus prevent its coming, the course would be more philosophical and satisfactory. (The President, by courtesy, or *oversight*, indulged Dr. W. far beyond the allotted ten minutes.—REP.)

Dr. BERRY stated that he had been informed, on good authority, that the Japanese have usually good teeth. He exhibited a tooth powder used by that people, which he said, might be interesting to the curious. A powder, similar in appearance and physical properties, might be made from prepared chalk, pumice stone and rose red.

Dr. **Van Emon** inquired of Dr. Watt, what influence galvanism had on the destruction of the teeth.

Dr. **Watt** said, it had no *direct* influence. It could only act on the teeth, by forming or eliminating compounds, capable of exerting an influence on them.

Dr. **Taft** said, that to preserve good teeth, the secretions of the mouth should be kept normal. If they become abdormal, it was important to know how to change them. To remain healthy, a tooth must be exercised. A tooth without an antagonist, we all knew, was likely to become unhealthy. The use of hard, firm food, has a tendency to preserve the teeth. Dogs, he said, have no tartar on their teeth. The character of the food is not sufficiently cared for. The state of the buccal secretions, he said had much to do with the question of cleanliness. They were sometimes so adhesive, that they attached themselves to the teeth with considerable tenacity, and were not removed except by careful brushing.

Dr. **Stone**, requested Dr. Taylor to give his views of the use of sugar, salts, candies, etc.

Dr. **Taylor** said, he did not consider candy very good diet. Corn bread, he thought, was undoubtedly, better. Sugar, he thought, had no bad effect on the teeth—was a useful article of food.

III. *The treatment of exposed nerves.*

SECOND DAY—AFTERNOON SESSION.

Dr. **Atkinson** said, that when the nerve was accidentally exposed in operating, he applied cresote on a pledget of cotton, and pressed it, with a blunt smooth instrument, on the exposed part, continuing the pressure, in many instances, for a minute or two. He then placed a thin horn cap over the exposed part, pressed it to its place with cotton on a blunt instrument,—the pressure of the atmosphere would hold it in its position. Then he would fill the cavity as usual.

If the pulp was exposed when the patient first came, but not inflamed, he would pursue the same course. If inflamed, he would, if practicable, reduce the inflammation, and proceed as before. Many substances, he said, would do for caps as well as horn, but this was so easily prepared, that he preferred it. By pounding, or hammering the horn, it is divided into thin lamina, very convenient for use. Under this treatment, he said, the nerve would often be protected by a deposit of cementum. He referred to a case of exposed nerve, in which the tooth was filled, February 23d, and on the 22d of March following, the filling was removed to ascertain the condition of the tooth. The nerve was covered by cementum.

Dr. Branch said, that he filled such cases without applying creosote, or any thing else. He had seen inflammation result from the use of creosote.

Dr. Asay feared he was behind the age. Three-fourths of the cases he capped, failed in less than six months. They generally inflamed. His usual practice was to destroy the nerve, and fill the fangs.

Dr. Tefft said, that his method was, to destroy the nerve with arsenic, tannin, and creosote, and he did not fail more than one time in fifty.

Dr. Wright said, that when there is slight exposure, he touches the exposed point with nitric acid, and filled without capping, and in fifteen years had not lost a case. The nitric acid, he said, blackens the tooth. He had not been very successful in taking out nerves.

Dr. W. B. Ingersoll reported a case in which he performed what was, at the time, known as the "Hullihen operation." The tooth was a lateral incisor, with exposed nerve. The operation was performed five years ago, and the tooth is still healthy.—He had failed in other cases. He tried capping, but didn't like it. He now removes the nerve, unless the tooth can be filled without capping.

Dr. **Stone** said, his practice was to remove as much of the decay as he could, without causing severe pain, and then extirpate. He had quit capping, as he could not get teeth, treated in this way, to last over two years. He removes the nerve with an instrument, wipes out the blood, and fills in a few minutes.

Dr. **Perine** said, he once extirpated all nerves, but, on receiving suggestions from Dr. Atkinson, he had changed his mode. He thought it important to preserve the vitality of the tooth.

Dr. **Johnson**, of Indianapolis, said he applied chloride of zinc directly to the exposed nerve, repeating the application if necessary. The pain was severe.—Its application, he thought, was more successful with young patients than with old. He had used the chloride in this way for two years, and had seen no discoloration of the teeth.

Dr. **Fuller** said, he could not get along without the chloride of zinc. It is a good antiseptic, as well as escharotic. He thought it important to fill the nerve cavity. He destroyed nerves with escharotics. He formely used arsenic and morphine,—now he omits the morphine, and finds that less pain is caused by the escharotic action. He now uses chloride of zinc, instead of creosote. In using the latter, the nerve sometimes dies, and the tooth becomes discolored.

Dr. **Dunham** said, he had capped and failed; and he had succeeded with various caps. The tooth could often be saved, after the nerve is destroyed, without filling the canal; but he usually fills it. Plaster of Paris, he thought, formed the best cap.

Dr. **Ailport** said, he was not very successful in treating exposed nerves. If it was inflamed, he cut it out; if not, he tried to save it. He uses arsenic occasionally.

Dr. **Rogers** of Utica, thought, that if a nerve was seriously wounded, it would certainly die.

Dr. **Rehwinkle** thought, when a nerve was exposed, its case was almost hopeless; if suppuration had begun, it was entirely so. If inflamed, and but lately exposed, he would use astringents instead of escharotics, and insert a temporary filling. He reported successful cases treated in this way. He said (to Dr. Atkinson) that osteo-dentine is sometimes formed under such circumstances.

Dr. **Branch** said, that when it was necessary to extirpate the nerve, he would apply cold water, then ice-water, then a freezing mixture, and remove the nerve with an instrument. He uses no morphine in arsenical mixtures for destroying the nerves, and the result is, there is no pain. He uses a bristle instead of a broach. In the use of caps, he succeeds in three out of four causes. He had seen exposed nerves protected by a deposit of cementum.

Dr. **Wright** reported a case in which the pulp of a molar was wounded and bled profusely. The tooth was filled with tin, a pledget of cotton being left in the cavity. Twenty-four years afterward, he removed the filling, the cotton was in a good state of preservation, osteo-dentine was deposited over the nerve, and the tooth was sensitive, and evidently alive. He refilled it successfully.

Dr. **Rogers** of Utica, said, he would prefer to believe that Dr. W. had been misinformed respecting the condition of the tooth at the time it was filled. He would not say that the nerve always died in such cases, but he believed it did.

Dr. **Berry** said, that if he wounded the nerve, he expected it to die. He thought, however, he had seen one successful case in his practice. He extirpates the nerve with an instrument, and said that in the South they had the *nerve* to stand it.

Dr. **Palmer** said, that the pulp may be exposed at minute points, and the operator not be aware of it; and if a little blood be left in the cavity, suppuration, and consequent pressure, would result. In such cases he applied creosote, with a burnisher, over the entire surface. If the exposure be considerable, he would moisten a pledget of cotton with creosote, and press it firmly in the cavity, for some time, then fill up tightly with cotton awhile, and afterward fill with gold, without a cap. When the nerve is extirpated, he fills the fangs. If the nerve is freely exposed, he applies a muslin cap moistened with creosote and fills over it. He is opposed to the use of arsenic, though, he said, he was among the first to use it. He thought morphine combined with it, increases the pain. He now uses cobalt, which is milder.

Dr. ROBERTS said, he removes the nerve, when practicable, with an instrument. The opeartion is not as severe as patients expect it to be. When a front tooth is aching, and the nerve is exposed, he removes it with an instrument, to relieve the tooth-ache, and then fills immediately. The experiment of saving exposed nerves he thought well worth a trial.

Dr. TAYLOR said, his practice was somewhat modified. He was in the habit of capping, more or less. He discriminated more carefully than formerly, but was in favor of capping in appropriate cases. He said it was important to know whether the decay reaches the pulp or not, before we cut down to it. If the tooth is sensitive around the border of the cavity, the nerve, he said, is not exposed. If a nerve was wounded, he formerly destroyed it; but he began to inquire why a wound of the pulp membrane should give more difficulty than cutting off the nerve and vessels in the canal. Reasoning on this, he began to cap and fill, even if the pulp were wounded, and was usually successful in favorable constitutions. If the constitution were bad, and the mouth diseased, he would not try it. He does not use morphine and arsenic to destroy nerves—uses creosote and cobalt. He inquired what should be done with a nerve that arsenic would not kill.

Dr. **Chase** used cresote and arsenic, applying a lead cap over it, to prevent pressure on the nerve. The result was, no pain from the action of the arsenic.

Dr. **Allen** said, he used creosote and arsenic, and there was no pain, unless it was caused by pressure.

Dr. **Osmond** said, if the pulp be wounded, there will be hemorrhage and effusion of lymph, and in good constitutions, a deposit of osteo-dentine. In scrofulous cases, he recommended the use of hypo-phosphate of soda and lime, to promote the formation of this deposit. His favorite cap was prepared by folding foil to the proper thickness, and varnishing it with gutta percha dissolved in chloroform.

Dr. **Ulrey** inquired, if those who use arsenic ever witness bad effects from it. He thought it important to report the failures and mishaps, as well as the successes.—*To be continued in our next.*—Eds.

Continued from our last.

MINUTES AND DISCUSSIONS OF THE NEW YORK DENTAL ASSOCIATION.

Dr. Hawes asked how he removed the nerve when the cavity was smaller than the brouch used, as was sometimes the case.

Dr. Perine replied, in cases where it was impossible to extirpate the nerves with the brouch, he enlarged the nerve cavities, but preferred the natural shape of the canal. There were cases, however, in his practice, when he found it almost impossible to remove it entirely.

Dr. Covell remarked, that he had not practiced to much extent the extirpation of the pulp and filling of the roots of teeth—preferred saving the vitality of the nerve—had been successful in capping the nerve and filling sensitive teeth by a cover of finely pulverized charcoal. He referred to cases in which he had filled teeth in this manner, a number of years since—had seen them quite recently—found them in a healthy condition, and had been free from pain.

Dr. Perine asked if he had noticed any discoloration in the teeth from coal.

Dr. Covell replied he had not—the coal was very finely pulverized and placed in the bottom of the cavity. Got the hint from one of the profession in Philadelphia, a number of years ago.

Dr. Roberts remarked, in using a substance as a nonconductor, would recommend horn or bone.

Dr. Keys thought it highly important, in preparing the nerve cavity for filling, that the entire portion of the pulp be removed, to preserve the health of the tooth. He believes that no ossification can take place without inflammation—thinks it does not depend so much upon the perfect filling of the root as to prevent the inflammatory action.

Dr. McIllroy asked why it was that aged persons' teeth ossified without ulceration.

Dr. Keys replied, that the inflammation did not go so far as to produce ulceration.

Dr. McIllroy said he would like to hear from Dr. Lovejoy who had a large experience in the treatment and filling of roots.

Dr. Lovejoy does not profess to have had so large an experience as some others. He did hope to hear more upon the treatment of abscess. His practice is to probe the internal membrane and the sack, if possible, remove the matter—uses creosote, nitrate silver—leeches gums freely. After bringing about a healthy action, fills the roots—avoids pressing air or moisture in advance of the filling.

Dr. Putnam said he had retired from the labors of the operative department, and was glad he had done so, but he would say a few words. Has never practiced root filling. Spoke of filling the apex and leaving the canal open, and completes the operation by plugging the crown cavity. Treats abscess with creosote. Thinks much of the practice of drilling the root as recommended by the late Dr. H. and others. If the cavity of the tooth thus treated be kept open there is no trouble. Has a tooth treated thus in his own mouth. Has been successful in this mode of treatment.

Dr. Roberts said, there were many theories advanced in the practice of dentistry, and it was of vital importance to patients that correct conclusions should be arrived at. He, therefore, thought Dr. Putnam's mode a bad one, and had a tendency to mislead young dentists. He had practiced this to some extent, but had abandoned it; he could see no necessity for drilling the tooth and leaving an opening to be constantly discharging, when a filling could be removed and the root properly treated and cured permanently. He said there were three important facts to be kept in mind in the filling of badly decayed teeth: 1st, always preserve the nerve alive if possible; 2d; when impossible, it should be removed and the tooth filled to the apex of the root. He had no hesitation in saying, that nine cases in ten could be saved; 3d, when the disease had progressed to ulceration, then proper remedies should be applied, and tooth filled as before spoken of. He decidedly objected to the wholesale extracting of teeth when the nerves are exposed or abscesses formed.

Dr. Clark said he was glad to hear the old practice once more spoken of. There was a time he practiced it, but it was to give immediate relief. Thinks if a nerve can be covered it would be better. Would caution younger members of the profession to be careful about the destruction of nerves. His method of filling nerve cavities is to roll the gold foil in the form of a pin and carry it to the apex with a small instrument for the purpose. Was careful not to force air in advance of the plug. He loses no more than one in ten after the filling of the roots.

Dr. Perine remarked, he had never resorted very extensively to the drilling the roots of teeth. Thinks in such cases, after treatment, the root should be filled.

Dr. McIllroy said he had been much gratified with the discussion of the evening; he hoped hereafter to hear more on the pathology of the teeth.

The time having expired allotted for the discussion, the committee presented the subject for discussion at the next meeting, when, on motion, adjourned to meet two weeks from this evening.

EDITORIALS AND CUTTINGS.

WESTERN DENTAL SOCIETY.

We would, if space permitted, give the proceedings in full, of the Annual Meeting of the *Western Dental Society*, held in Quincy, Ill., July 20th and 21st.

The following were elected officers for the ensuing year :

Dr. W. W. Allport, of Chicago, Ill., *President,*
" J. B. Branch, Galena, Ill., 1st *Vice-President,*
" W. H. Anderson, of Hannibal, Mo., 2d *Vice-President,*
" J. Forbes, of St. Louis, Mo., *Recording Secretary,*
" H. E. Peebles, of St. Louis, Mo., *Corresponding Secretary,*
" A. Blake, of St. Louis, Mo., *Treasurer.*

Examining Committee.—Drs. Spalding, McKellops, Forbes, Priest and Hubbard.

The discussions were participated in by all the members present, and were interesting and instructive. The session, throughout, was characterized by harmony and good feeling. We regret not being present during the early part of the session ; but happily arrived before the animated and interesting discussions of the first session terminated.

The Society adjourned to meet in Milwaukie, Wis., on the first Tuesday in July, 1859. The fine banquet given by the profession of Quincy and vicinity, came off at Lomelino's Hall, on Wednesday evening. The members present, with a few invited guests, with fine sets of teeth, brought them into exercise with the knife and fork. Such a display we have seldom witnessed. All appeared to be good feeders, and did justice to the choice things set before them ; while a display of long-necked bottles, charmed those who felt *Spiritually* inclined.

After picking his teeth, the President opened the ball with a short address. Spirited and interesting speeches followed from Drs. BRANCH, LEWIS, PERINE, HUBBARD, McKELLOPS, BARRON, ANDREWS and others. The toasts were unusually pointed and piquant.

Dr. J. FORBES, the Ex-President, gave the following sentiment : " May the spirit which animated the early promoters of Dental Literature, the parent of a liberal and free American Dental Education, and unselfish interchange of thought, find in the young men of the profession, temples fit to dwell in."

A call was made for PEEBLES, who arose, and made a fine speech, (which, if space permitted, we would publish in full ; it may be seen in the *American Dental Review.)* The banquet passed off most happily to all, and will long be remembered by those who shared in this the " feast of reason, and the flow of soul."

Owing to press of matter, we are obliged to omit our Historical and Biographical Articles in the present number, but will continue them in our next.—EDS.

We request that our subscribers will remit the amount of their subscriptions at their earliest opportunity, and thus evince their desire to support an independent Journal. We beg to return thanks to our exchanges for their courtesies, and will be happy to exchange with any periodicals that desire it. We hope to make the " *Dental Journal*" equal in value to any published.—EDS.

THE LATE WESTERN CONVENTIONS.

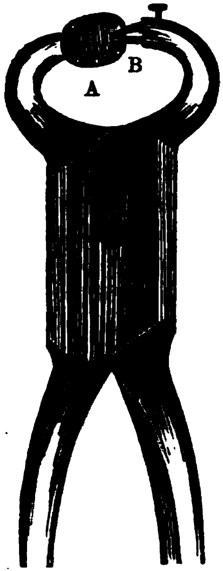
Desiring to note the progress of Dental Science, and of our profession from time to time, we took it upon ourselves, though at considerable expense of time and money, to visit our Western friends at the late Conventions held at Quincy, Ills., and Cincinnati, Ohio. To prove that we have returned amply repaid we have only to refer our readers to the reports of the proceedings at those Conventions, and hoping they will give us credit for the requisite good taste, we are satisfied to leave our opinions in their hands, feeling certain they will do us justice. We cannot, however, let the opportunity pass without a word of thanks for the many courtesies that were bestowed upon us, and a cordial hope that we shall some time be enabled to reciprocate in our own city. Our western friends, proved to us that they can do, what Macbeth's physician could *not* do,—they can *"Minister to a mind diseased,"*—as the many pleasant reminniscences we bring back of their fostering care of our little peculiarities and habits assure us. Our friend HUNTER may rest satisfied that our appreciation of his worth will not end in *smoke*, nor will our own protestations of friendship prove a *mere sham*. To HALE, of St. Louis, we would only say that though forced by adverse fate to give *leg*-bail, it is with the greatest satisfaction that we reflect on the memento of himself which we brought with us.

We also beg STODDARD, of New London, to believe that his beautiful gift will ever prove an *instrument* to *fill* our souls with gratitude when we remember the giver; and though we never chew, we hope its silver sides may glisten over many a *plug*.—EDS.

FROM late correspondence with Prof. Westcott of Syracuse, we learn that he has in preparation a work upon the effects of nearly two hundred substances, forming component parts of food, condiments, medicines, &c., upon the teeth; being the results of various experiments made by him in 1843. Such a work cannot fail to be of great value as well as interest to the profession.—EDS.

PERINE'S PIVOT SPLITTING FORCEPS.

The following cut is a representation of a forceps designed for splitting pivots, in order to secure the backing to the tooth or block in artificial work. It is intended for the use of those who remove the tooth or block from the plaster before backing, a method offering many advantages over tbe old system of backing while in plaster.



Letter A in the cut represents a small gutta-percha pad, upon which the tooth or block is laid, and which protects it from injury.

Letter B is the base of the forceps in the form of a V, which splits the pivot into halves, securing the backing to the tooth. The form of the blade can however be varied at pleasure to split the pivot into two or three parts.

Note. We are indebted to Dr. Eccleston of Oxford, N. Y. for the cut, the instruments are made by John Biddle of this city.

We beg to state that the above instrument *is not patented.*

NEW YORK DENTAL ASSOCIATION.

In our first number we took occasion to mention the steps taken last year by the New York profession to establish a local society. We beg to present the matter again before the profession, and to urge them to some action in the premises during the coming season. By a proper method and due energy on the part of the gentlemen themselves, an association might readily be established here whose influence should be felt even to the far west. There are many matters of interest which need only discussion to cause them to find a level where they may be made useful to all. Will not the profession of New York at once call a preliminary meeting and lay the foundation for a corporate body in this city? There is talent lying latent among us which needs only some such opportunity to induce it to spring forth illuminating every topic. Do not then remain inactive longer! but one and all come forward, and spurring each other on, it will soon be seen that New York cannot fall behind other cities in our profession, when she is so far in advance in every thing else.—Eds

QUARTZ FILLING.

"*Somebody*" is doubtless much obliged to our friend of the "*American Dental Review,*" for his kindly caution. The sad accident cited should certainly be entitled, "The pursuit of *Quarts* under difficulties," at all events the unfortunate had to *pint* up. There is an old proverb, "too much of a good thing is good for nothing;" had our auriferous friend from El Dorado, rested satisfied with filling his *teeth* with the treacherous fluid, and not his *stomach,* he would still be living to head the band who will at some future time bear witness to the efficacy of '*Quartz Filling.*' *Requiescat in stone-e.*—Eds.

Gold Foil.—We have recently been using gold foil, manufactured by Mr. John Kearsing; it is adhesive and soft, and works as well as any other foil we have used.

The profession up town will be pleased to know he has opened a branch depot, corner Broadway and Twelfth street.

We are happy to see our Indiana friends taking so laudable a start in the matter of Conventions, we hope we shall not be far behind them; we give below their call for a State Convention at Indianapolis, Dec. 28 prox.—Eds.

INDIANA STATE DENTAL CONVENTION.

A meeting of the Dentists of the City of Indianapolis, was held Aug., 1st, 1858. Dr. J. F. Johnston was made Chairman, and Dr. G. C. North, Secretary. It was Resolved,

That the Dentists of the State generally be invited to attend a Dental Convention, to be held in this City on the 28th day of December next, for the purpose of forming a State Dental Convention.

A Circular of invitation will be sent to all practising Dentists whose names and residences can be ascertained. All other competent practitioners are cordially invited and earnestly solicited to attend

We have received the following works but space will not permit of more than mention; we shall notice in our next.—Eds.

American Journal of Dental Science.
The Dental News Letter.
The Dental Register of the West.
The Dental Reporter.
The American Dental Recorder.
The College Journal of *Medical Science.*
The Dental Enterprise, Three numbers.

CHEAP ADVERTISING DENTISTS.

EXTRAORDINARY VERDICT.

Nostrum venders with their empirical recipes of universal prescription, ushered into the world as they are by flashing papers, and many colored handbills, with counterfeit recommendations, followed though they be by the dead march to the graves with the groans of tortured thousands, are of the same grade with the class of practitioners above referred to. They are generally rejected *attaches* to the profession of medicine, whose slow and honorable industry lags too much on the road to fortune, to suit their abandoned rapacity for gold. Forcing themselves into its ranks by the use of such means as forcibly expels them, they rush into our miscellaneous world and belabor their willing victims, with millions of compound and simple pills, and wash them away in the tide of tonics and elixirs, which often, nay constantly, drench every community. And the chief virtue is that they cure all for only two shillings.

The cheap advertising dentist does the same in a different way. He is often found driven from a more fitting employment in the capacity of a country blacksmith, or in the employment of some useful but less skillful of the mechanic arts, by sheer indolence and incapability, or more frequently by the inducement of an old sinner, who promises in the short space of thirty days, to qualify him for the practice of dental surgery, in all its branches.

Thus we have those who migrate from the pocket of one community, to that of another, depending only upon the *furor* they create, by flaming advertisements of cheap dentistry, being wholly and naturally incapacitated, even to approximation, to any qualification to practice.

Such we suppose to be the position held by the plaintiff, in the following singular and unjust suit: the verdict against the defendant is no less strange than deplorable.

From our European budget, it appears that a widow lady, had been attracted by the flaming advertisement of a dentist, who occasionally visited the place of her residence, and many other adjoining villages. In his advertisement, every possible success was promised with the most complete satisfaction to patients. After several visits, she arranged to have a set of teeth inserted, and in due time they were completed and placed in the mouth. Upon her return home she found all her hopes annihilated, the operation being a complete failure. Of course she again visited the person, who, upon examination, admitted the want of adaptation; accordingly a second set were made with a view of correcting the faults of the first. The second set however proved to be also a failure, with increased defects in construction. The price charged was twenty-five guineas for each set, which sums the defendant refusing to pay, the plaintiff brought an action for recovery of these amounts. In the course of trial, several dentists gave evidence *pro* and *con*. But a Mr. Rogers, as also a Mr. Hackley, both practitioners of eminence, pronounced a severe and entire condemnation on the pieces. The jury, notwithstanding, brought in a verdict of damages against the defendant for the full amount of both sets.—*American Journal.*

The following we copy from a circular of a wag of a tooth-puller at Bloomington.

Benevolent Institution.—Dr. P.——dentist having once more opened an office in Bloomington, will perform all operations on the teeth at greatly reduced prices.

A beautiful silver cup will be presented to the person having the greatest number of teeth extracted—and a splendid gold watch and charmswill be awarded to the one having the first set of artificial teeth inserted.

Teeth extracted for a dollar a dozen.

THE

New-York

DENTAL JOURNAL.

DECEMBER, 1858.

A GLANCE AT THE HISTORY AND PROGRESS OF DENTAL SCIENCE,

FROM THE EARLIEST AGES TO THE PRESENT TIME.

(*Continued.*)

Proceeding in our review of the history of Dental Science, we have a few more facts to give of the discoveries in Ancient Egypt, before passing on to Dentistry among the Greeks and Romans.—In the year 1800, M. Villoteau purchased from some men near Gourney, opposite to Carnac, on the Nile, a female Mummy, and thus refers to its teeth: "The lips were thin and the mouth small. The teeth appeared to be worn out through old age, and to have lost their sharpness, but they were all there and seemed not to have been decayed." Even at the present day, it is remarkable that the natives of Egypt have very good teeth, which they keep to the most advanced age. To the process of embalming we are greatly indebted for our knowledge of the ancients, and we could discover almost nothing concerning the formation of their teeth and manner of treating them, were it not for the mummies. The custom of embalming is of very ancient origin; we find in the book of Genesis that Joseph gave directions to the physicians concerning the embalmment of Jacob. There is, however, no description of the process before Herodotus, in the 5th century before Christ. Blumenthal mentions three sculls of Egyptian mummies having this peculiarity of the teeth. "The lower jaw is large and strong; the crowns of the incisor teeth are described as thick, cylindrical, or obtusely conical rather than lancet-shaped." This form, however, is not usual among mummies. It has also been proven by these researches, that the ancients replaced teeth lost by accident or design, by others manufactured from ivory, and attached to the other teeth by fillets of gold. The eleventh law of the XII. tables mentions this custom; it is found in Cicero De leges, II. 24: "Cui auro dentes vincti erant." * * * * * Martial also says,—

> "Sic dentata tibi videtur ægle,
> Empti offibus Indicoque cornu."

Thus we see that the ancients, in their own slow, dim-sighted way, forestalled the professors of modern dentistry in some at least of their modes of practice; perhaps the researches of some future Layard or Belzoni will bring forth from their graves still other inventions,—the principle of atmospheric pressure, the extraction of teeth by galvanic action;—for, as it has been discovered that the steam engine and the mariner's compass were in use among the ancients, we may at any time look for as startling discoveries in our own science.

The Greeks and Romans appear to have been the first who made any distinct and admitted progress in theoretical dentistry; although in many instances their principles were wrong, and their practice cruel and unnecessary, it was still something to find dentistry reduced to what at least approximated to a science, and it is a satisfaction to know that such writers as Hippocrates, Galen and Celsus, saw sufficient of interest and value to mankind in this subject to induce them to devote some time and space in their voluminous and valuable writings to its elucidation. It is strange to find in the writings of these distinguished authorities the same objections to the extraction of teeth that we notice among the ancient Egyptians in their practice: thus Celsus advises to leave extraction for a *dernier resort*, and recommends various chemical preparations for inserting in the cavity of the decayed tooth, the effect of which is to induce a separation of the particles composing it, when it drops out in small fragments. The cautery is also recommended when the gum is diseased, the parts being afterwards soothed with honey. They seldom extracted a tooth except with the fingers, the operation being of course slow and painful. We also learn from Galen, that various compositions existed among the Greeks and Romans for cleansing the teeth, similar to our own modern dentifrices. Thus Andromache, Aristocrates, Crito, and Diocletian were noted as amateur manufacturers of tooth powder. Many other strange preventives and remedies too numerous to mention come down to us from those curious old empirics,—vapour baths, injections in the ear and nose, gargles of strong vinegar, and washes of pepper and nut oil, which would certainly not induce much regret in the minds of the odontalogically afflicted of the present day, that their lines were not cast in such places, and in those early centuries. ÆTIUS says "the teeth are open to the roots for the passage of those little nerves which supply them with vitality; it is for this reason that these are the only bones capable of becoming in themselves painful. They continue to grow until age saps the vigor which supplies them with life, when they become movable and finally fall out, having no further nutriment. Thus there are two kinds of odontalgia, or disease of the teeth; the one caused by a superabundant flow of the nutritive principle,—the other by its entire cessation; and by these two qualities of disease must we be guided in our choice of remedies."

Following the Greeks in their general practice, as well as their theories, we find the Arabs of the Desert if anything still more fearful of pain, and still more careful of hasty extraction. The principal medical writer of the Arabs, RHAZES, is not less noted as a general scholar and writer upon all subjects, than as the expounder and historian of the progress of dentistry among his countrymen. He recommends among other curious preparations, red and yellow arsenic to stop excessive hemorrhage of the gums. Cautery seems to have been one of his favorite remedies, as with the Greeks. The ordeal by fire, appears indeed to have been a pet dental cure-all among these early physicians, who, in avoiding pain in the Scylla of extraction, leaped into torture in the Charybdis of burning by red-hot iron, boiling oil, or otherwise.

The laws and customs which obtained among the Arabs in those old times, still exist with the dislike for change proverbial of the Oriental Nations. The Arab Dentist, called ***Toubibe Drouss***, or Tooth Doctor, is obliged to preserve all the teeth he pulls, that if a complaint is lodged against him with the Cadi for unnecessarily injuring the alveoli, or the gums, (as is often the case,) he can prove by the exhibition of the tooth that some malformation or advanced stage of disease rendered it impossible to avoid the accident. In the Algerian Sahara, the sufferers from tooth-ache have no Dentists to attend to their wants with care and kindness; they must have recourse to the Armorers and Farriers to whom is given the right to operate in all such cases. Here they may only lose the wrong tooth, or perhaps be fortunate enough to part with the one that actually causes their trouble; but far oftener the unwieldy and unsuitable instrument in unskillful hands, tears away the gums, or breaks the jaws, while vainly struggling with the offending *dentis*. The Arabs do not admit the possibility of replacing extracted or lost teeth by those of artificial manufacture; although ABUL KASEM recommends this practice, and suggests as a means for securing them, fillets of silver or gold. The stubbornness, ignorance and carelessness of the Arabs, as may be supposed, frequently cause the most alarming diseases to attack the whole system, solely by reason of their heedless treatment of diseased teeth. The Arabs are distinguished from other nations by the projection, more or less decided, of their jaws. Although great smokers, they expectorate very little; their lips are large and thick; their teeth vertical, firmly set, short and very white. With them dentition is precocious; the two first incisors appear at the age of five months; the four superior incisors at the eighth or ninth month; the four first molars, and two lateral inferior incisors, from the eleventh to the fourteenth month; the four canines about the twentieth, and the four last molars the twenty-second to the twenty-fifth month. The second dentition is already far advanced by the seventh year, and a law exists as follows: "When the child shall have entered upon its seventh year, and its second teeth appear, pray for it!" This precocity of dentition, it is noticed, renders the general health of children much more regular than with us. The teeth of the Arabs are compact and solid, of a dull yellowish white in color, instead of milk-white; while their chemical composition is found to differ from those of other nations, in that they contain a larger proportion of carbonate of chalk, (3 to 1,) and a smaller proportion of phosphate of chalk, (55.5—64.3.) It is perhaps to this chemical formation that the Arabs owe the greater density and beauty of their teeth, as compared to Europeans; while their abstinence from the use of alcoholic liquor must also act favorably upon their general healthiness. It is also observed among the Saharians, as improving the tone of health and vigor of these organs, that the facial angle is more open, and the maxillary bones more widely extended than with us, and we find in consequence that the Arabs usually preserve their teeth to a much greater age, and in much better order than is the case with the inhabitants of more northern countries.

In our next number we shall continue this subject with reference to the peculiar customs of these ancient and wandering nations, with regard to the preservation and management of the teeth.

SKETCH OF THE LIFE OF JOSEPH FOX, M.R.C.S.

Joseph Fox, the subject of the present sketch, was born in 1776, and died at his residence in London, April 10th, 1816. Of his early life no record exists, and we first hear of him as an eminent Surgeon Dentist of extensive practice in London, where his universally acknowledged abilities made him equally known and admired. In 1803, Mr Fox published his first work, bearing the following title :— "*The Natural History of the Human Teeth, including a particular elucidation of the changes which take place during the Second Dentition; and describing the proper mode of treatment to prevent irregularities of the teeth. To which is added an account of the diseases which affect children during the first dentition. Illustrated with thirteen Copper-plates*, 4*to*. *pp*. 100. *London*, 1803."

Although for the body of information contained in the above work Mr. Fox was indebted to Drs. Hunter and Blake; yet in many instances he corrected, improved and extended their researches. Especially he made one important discovery by which he was enabled to correct the error into which both these eminent Surgeons had unwittingly fallen, concerning the vascularity of the membranes surrounding the pulps; these, by injections in which he was very successful, he proved to be vascular.

Mr. Fox then continues his subject by proceeding to inform us of the causes and means of preventing irregularities of the teeth.— In this subject he was evidently thoroughly versed, and after the lapse of half a century, with its changes and improvements, his theories are borne out by practice. Concerning the diseases which attend Dentition, Mr. Fox wrote little, but with care and evident acquaintance with his subject. The bibliographers of the time in speaking of this work, refer to it as "*highly esteemed.*"

Mr. Fox next published—"*The History and Treatment of Diseases of the Teeth, the Gums, and the Alveolar Process, with the Operations which they respectively require. To which are added observations on other Diseases of the Mouth, and on the mode of fixing Artificial Teeth. Illustrated with Copper Plates. 4to. pp.* 170. *London,* 1806." As Mr. Fox's first work comprehended within the scope of its intention the natural history of the human teeth either in their abnormal condition or under the influence of primary irregularities; the second work continues the subject by describing them under the influence of disease. Mr. Fox differs from Dr. Hunter, in that he describes and considers the disease as advancing from within, and proceeding outwards towards the enamel; but as our province does not include criticism upon opinions, we shall only state the fact without further comment. Mr. Fox has carefully considered in this work the remote causes and progress of *Caries*, and his remarks upon the subject, deserved and received careful attention at the hands of the profession. Mr. Fox was a firm believer in the frequent existence of disease in the teeth arising from other than local causes; considering it frequently hereditary. Proceeding in his researches, the author examines carefully the nature of diseases of the gums, of the *alveolar processes*, and concludes with a description of the proper manner of performing operations upon the teeth, and upon the insertion of artificial teeth. These two works comprise the whole of Mr. Fox's contributions to Dental literature, and as they are thoroughly known by the profession, we will not consider them further. About the year 1806, Mr. Fox warmly interested himself in matters of education, and as Joseph Lancaster was then seeking to introduce his since celebrated system to the British public, Mr. Fox soon became an ardent advocate of its peculiar merits. This system of education originally derived from the East Indies, having been practised in Madras by Dr. Bell, was however much improved by Mr. Lancaster, and for a time was completely successful in England. The final failure of Lancaster, his exodus to this country, and subsequent death here under circumstances of peculiar misfortune, being reduced to beggary, are matters of history, and require no further allusion at our hands. It was by reason of his strong and untiring labor in this cause, that Mr. Fox became popularly known and widely respected; and the publication of several works upon the subject, with his position as an officer of several societies, rendered him more distinguished then even his professional reputation. Mr. Fox, was particularly admired for his enlightened mind, his energetic character and liberal heart. His death was lamented by all who knew him, and to pay deserved respect to his memory, his funeral was attended by the societies with which he was connected including many of the Nobility and Gentry of England.

In pursuance of our intention to extract from foreign and local journals such articles as may prove interesting or instructive to the profession, we give the following article by Dr. Tomes, *in full, copying from a late number of the* Quarterly Journal of Microscopic Science.—Eds.

ON CERTAIN CONDITIONS OF THE DENTAL TISSUES.

By John Tomes, F. R. S.

The temporary teeth, when about to be replaced by the permanent set, lose their fangs by gradual absorption of their substance. The crown when thus left, having but little hold upon the gum, soon falls out. The manner in which the absorption of the dental tissues is affected has been described in a paper published in the "*Philosophical Transactions*," in 1853. The subject is there mentioned in connection with the absorption of bone.

Having lately had occasion to devote considerable attention to the phenomena attending the casting off of the deciduous teeth, several conditions relative to absorption have come under my notice, which, as applied to teeth, had, I think, hitherto escaped observation. It may, however, be here stated, that the more recent examinations have not led to any modification of the opinions upon the subject of absorption advanced in the paper alluded to, but have served rather to confirm the statement there made. Absorption may commence upon any part of the fangs of a tooth, and at several points at the same time. By the gradual extension of this process, both in depth and superficially, the root of the tooth is wasted, till, at last, nothing is left but the crown, and even this part is often so much hollowed out, that excepting the enamel, but little of the tooth remains. The cementum is first attacked, then the dentine disappears, and the enamel at those points where the dentine has been entirely removed suffers from the same action. But whichever of the three tissues is attacked, we see the same characteristic surface as that shown by bone when undergoing a similar action—namely, a surface full of deep indentations, as though they had been made by a sharp, piercing instrument, having a semicircular extremity. These minute holes or depressions proceed in various directions, several advancing from contrary points towards the same spot, not unfrequently isolate pieces of dentine. If a section be taken through the substance of a tooth, so as to cut the wasting part at a right angle, we shall find the surface acted upon to have an irregular festooned outline, so characteristic, that when once seen it cannot fail to be again recognized.

It has been stated that, closely applied to the surface, a cellular mass will be found, and that this is but slightly adherent, the wasting and growing surfaces readily parting, unless the two are held together by the irregularities on the surface of the former. It will sometimes happen that the cellular mass penetrates into the dentine through a small opening, and there dilates—in which case its withdrawal becomes impossible. This condition is now and then found on sections prepared for the microscope, when we have an opportunity of examining the two tissues *in situ*. Indeed we shall find a few cells adherent to the surface of the dentine where less deep burrowing has occurred. The cells themselves do not present any peculiarity by which they could be readily recognized. They are small granular cells, of a more or less spherical form. If a tooth which has lost its fang be carefully removed, we shall find remaining in its place a growing *papilla*, corresponding exactly in size and form to the surface from which it has been separated; and this separation may often be effected with so little injury to the absorbent organ, that no blood appears on its surface after the operation, although the organ is highly vascular and readily torn. The superficial extent of the *papilla* will be equal to that part of the tooth undergoing waste, but the extent, as regards depth, is slight—for, as the root of the tooth disappears, the socket is contracted by the deposition of the bone, which forms at the base of the absorbent organ as rapidly as the cellular surface encroaches upon the tooth. The cases in which we find an exception to this condition are those in which the permanent has advanced close to the fangs of the temporary tooth, when the crypt containing the one communicates with the socket of the other, the rate of growth of the permanent having been greater than the absorption of the deciduous organ ; but even in these cases we may generally observe some part in which the contraction of the socket is coincident with the absorption of the occupant fang. From the following quotation it does not appear that Mr. Bell observed these conditions :—

" It has been already stated, that the permanent teeth during their formation are crowded together in the jaw, by being placed in a smaller arch than they could occupy if regularly placed side by side. We find that as soon as they are advanced to a certain point of their formation, and can no longer be contained within the alveoli, absorption takes place in the anterior parietes of the cavities, by which means the teeth are allowed to come in some measure forward. In consequence of this absorption it often happens, that not only the socket of the corresponding temporary tooth, but that of the tooth on each side, is also opened to the permanent one. Absorption now commences in the root of the temporary tooth, generally on that part nearest its successor, and thus goes on by degrees as the latter advances, until the root is completely removed ; the crown at length falls off, leaving room for the permanent tooth to supply its place."

Mr. Bell, however, rejects the idea that mere pressure of the one tooth against the other has anything to do with the absorption of the first set ; an opinion that he would probably express even more strongly, had he observed the shallow but perfect sockets which are formed when the temporary teeth are shed before their successors are ready to appear. This, however, must be a very common condition, as I have in my own collection several specimens illustrating the point.

The fact was not overlooked, I think, by Hunter, although his description is not very clear. He states, at page 99 in his "*Natural History of the Teeth*:"—"The new alveoli rise with the new teeth, and the old alveoli decay in proportion as the old teeth decay; and when the first set falls out, the succeeding are so far from having destroyed by their pressure the parts which they might be supposed to push, that they are still enclosed and covered by a complete bony socket." From this we see that the change is not produced by a mechanical pressure, but by a particular process in the animal economy.

But there is still a disposition on the part of many who are intrusted with the treatment of teeth, to attribute the absorption of the roots of the one tooth to the pressure occasioned by the growth of its successor, and the development of the permanent may have something to do with the shedding of the other. But this does not offer a satisfactory explanation of all the circumstances attending the absorption of the fangs of the teeth. In the first case we sometimes meet with cases in which the fangs of the permanent teeth are as completely absorbed as those of the temporary organs. Then, again, the fangs of the temporary teeth, which have no successors, are also absorbed. These circumstances, taken with the hitherto overlooked fact, that with the waste of the temporary tooth we have pretty generally a corresponding development of bone within the socket to be removed before the permanent tooth appears through the gums, render the pressure theory somewhat unsatisfactory. Another condition may be adduced, tending also against that opinion, namely, that temporary teeth occasionally maintain their place to the exclusion of the permanent ones, which are then kept within the surface of the jaw, or appear in some unusual position.

The relations as regards time between the absorption and shedding of temporary teeth and the appearance of the succeeding permanent teeth are by no means constant. In some cases the temporary teeth are thrown off two years before the corresponding permanent ones come through the gums. In others, again the new will replace the old ones in as many weeks or even days.

Before the laws which regulate the absorption of the fangs of teeth can be fully recognized, a more perfect knowledge of the condition attending the process must be acquired. Recent examinations have enabled me to add the following additional facts bearing upon this subject to those already known. The process of absorption once commenced, it appears to have been assumed that the same action would be continued, with more or less rapidity, until the tooth falls out; or if not continual, is suspended only. Such, however, is not constantly the case. Not only is the action of absorption suspended, but one of the developments takes its place. We find the excavated surface of the dentine cementum and enamel covered with cementum, the latter forming all the irregularities of the former tissues, and closely united to them. In cases where this development is going on, or being set up is maintained, the teeth afford considerable resistance when their removal is attempted. In those instances where the first teeth have remained, and tend to the displacement of the second set, this deposit of cementum will be found to exist in considerable quantity.

The development of bone upon the surface which had formerly been the seat of absorption, by no means indicates that the tooth will not again be subject to destructive action. On the contrary, specimens in my collection show that the bone deposited under the above circumstances may itself become the subject of absorption, that this process may be again suspended and development be renewed, that the absorption may again take the place of development; in fact, that wasting and separation may alternate until by the preponderance of the former the tooth is shed. In sections of teeth showing this peculiar condition of development, we may find upon the growing bone numerous osteal cells, with here and there a lacunal cell. A bone lacuna, situated within a semicircular indentation in the dentine, gives the appearance of a lacunal cell, and a lacuna similarly situated in the cementum (a circumstance of common occurrence), has possibly been supposed by Mr. J. Salter to be what has been described in the paper before referred to as a lacunal cell.

The part of a tooth which has the greatest power of resisting absorption, is that in immediate contact with the pulp. We find examples in which a thin shell of dentine surrounds that organ, while that around it has been in great part taken away. This is however, eventually removed, and the pulp itself changes its character and becomes an absorbent organ, or makes way for that which is. In a fortunate selection we may find sections showing in one part dentine which has been but recently formed, with its modulor outline and contiguous cells, capable of developing dentine; in another part absorption in active progress; and in a third the deposition of bone on the surface of the washed dentine. In no instance, however, have I seen dentine deposited upon the surface of that which has been diminished by absorption.

It would appear that the dentinal pulp, although its function may be changed into that of absorption, or its place be taken by an absorbont organ, and this, again, changed to one for the developmen of bone, is incapable of resuming under any recognised circumstances its primary function of dentinal development.

In other words, that a portion of the dentine when removed by absorption, cannot be replaced; while in bone, or cementum, the removal of a lost portion is of frequent occurrence. Sections taken from the teeth of adults seldom fail to exhibit points where the cementum has been removed and again added; and very commonly the absorption has at points extended a short distance into the dentine, and the lost parts made good with cementum. This condition may be observed in perfectly sound teeth; but in unsound ones, where the cementum exceeds the normal amount, the removal and renewal of tissue is still more marked. If the section be so made as to give a view of the surface of the pulp cavity, we shall probably find evidence of the pulp after the full development of the tooth, having resumed its full formative powers, and produced new or secondary dentine, the action having been excited either by the wearing away of the tooth or by the presence of caries. If the irritation be continued until it extends down the fang as far as its extremity, and signs of inflammation show themselves, the aperture of the fang will become enlarged by absorption, and after a while the enlargement is continued to a considerable distance up the root of the tooth. The canal may be again contracted by the formation of dentine, or by the development of cementum; and I have seen one or two instances in which the greater part of the pulp cavity in permanent teeth has been lined with cementum. This condition of tissues is very common in teeth that have been long the subject of caries, but I believe it is not confined to carious teeth. I have several specimens of temporal teeth, in which the lower part of the root has suffered from absorption, and then has become the seat of deposition of cementum, leaving only a small canal in the centre. High up the root small patches of dentine have been removed, some of which only have been made good with cementum, while the contiguous parts have retained their usual condition.

It will be seen that the foregoing facts bear upon the opinions advanced by Mr. De Morgan and myself, in the paper on the structure and development of bone, before cited; that we have indications in teeth, as in bone, of alterations, of removal, and deposition of tissue. In the young subject, the development of bone tissue is in excess of absorption, allowing the bones to increase in size; that in middle life the two powers, under ordinary circumstances, balance each other, and the bones preserve their adult dimensions; while in old age the absorbent action appears to preponderate. Conditions pretty nearly parallel occur in the dental tissues after the temporary tooth has been fully formed; portions of cementum are removed, and with it, in some cases, a little dentine; the lost parts are replaced by cementum and the tooth is again perfect. When the time approaches for shedding the teeth, the two actions alternate; but the absorption being in excess of the development, the tissues disappear, and the tooth is shed. After the formation of the permanent teeth we have occasional alternatives of the two actions; but they are balanced, and neither increase nor diminution in size is observed. But as age comes on, it often happens that absorption is in excess the fangs diminished in size, the teeth become loose, and fall out.

OBSERVATIONS ON THE STRUCTURE OF THE ENAMEL.

Without going fully into the structure and development of the enamel, and into the citation of the opinions published upon the subject, I wish to take this opportunity of recording certain observations which I have made upon that structure. The transverse striation of the enamel fibres has been frequently remarked, but the cause of these markings has not been determined. If sections from a number of eeth be examined, it will be found that the striæ are much more strongly pronounced in some specimens than in others, and most especially so in those in which part of the tissue have a brown color when seen by transmitted light.

The markings crossing the directions of the fibres are of two descriptions. The one arranged in contour lines, and situated at irregular distances from each other, uncertain in number and extent, and sometimes altogether absent. The other kind minute and regular, extending from fibre to fibre, and strongly resembling the transverse markings in voluntary muscle. In the present instance my remarks will be confined to the latter kind of markings.

In unhealthy subjects the permanent teeth, when they appear through the gums, are not unfrequently destitute of the brilliant white color common to the finely-developed organs of a healthy child; on the contrary, they have an opaque yellow color. If such teeth be selected for examination, we shall find that the sockets, when reduced sufficiently thin to be seen by transmitted light, present in the enamel a confused opaque appearance; but if a tolerably high power be used (such as the quarter or eighth object-glass) in conjunction with a strong light, the dark appearance will resolve itself into a series of lines; the one set working the course of the fibre, the other taking the direction of the transverse striæ. The two sets of lines crossing each other at right angles leave interspaces approaching a square form. These interspaces are fitted with granular masses, having the appearance of cells. By treating the section carefully with dilute hydrochloric acid, these appearances become more distinct, and we then have series of parallel fibres composed of distinct sheaths, each containing a line of granular cells or meshes arranged in a single series, presenting a strong resemblance to the ultimate fibrilea of muscles. That such is the true structure of enamel is, I think, satisfactorily proved by specimens in any collections, some of which show the cells or granular masses; whilst others show the sheath, with the contents removed. Other specimens, again, show the enamel fibres in the very young subject, deprived of their salts, detached from each other, and floating about in the fluid in which the section is preserved.

The figures illustrating those forms were drawn from specimens which retain the conditions figured. The appearances described do not admit of dispute; but the interpretation of their origin may, perhaps, be differently given by observers who do not agree upon the manner in which the enamel is developed. I do not propose to enter upon the question of development; but shall for the present leave the subject, after stating the varying conditions of enamel as it is found in human teeth.

In well-formed teeth, although the cell-like markings in the enamel are not by any means as distinct as in teeth in the condition I have described; yet having first examined the latter, but little difficulty will be experienced in recognising here and there faint indications of a similar structure, especially if the light be well managed. The more perfect the development of the teeth, the more transparent and free from markings will be the enamel when seen as a microscopic object; and the less perfect, the more distant will be the columns of granular cell-fibres.

Examples may readily be found in which the union between the enamel fibres is so defective that the tissue readily breaks down; a condition rendering it very difficult to grind it sufficiently thin for microscopic examination. When obtained, however, such specimens are very instructive, as they show distinctly the individual fibres and their contents, which in the most highly-developed tissue are so perfectly fused together, that the strongly-marked distinction of parts, which is so obvious in the one, is almost entirely lost in the other.

From what has been stated it will be seen that my view of the structure of enamel is as follows :—

The enamel fibres are composed of a sheath containing a series of cells or masses; that in perfectly-developed enamel, the cells or masses and sheaths are so blended that but slight distinction of parts remains, but that in less perfectly developed tissues the component parts remain visible.

FOR THE NEW-YORK DENTAL JOURNAL.

On examining the many inventions and improvements of the past, and carefully studying their importance as links in the great chain of development, there are none among the many that are deserving of more favorable consideration than the improvement in Artificial Dentures since the introduction of Mineral Teeth.

The manufacture of these teeth for a long time did not prove to be of much advantage to our art, partly in consequence of their opacity, and partly from the determined opposition of many Dentists to the introduction of every new thing into the profession. We have been told so great was the caution of some practitioners at the time, they could only be induced to make a trial of mineral teeth after soaking them in warm milk before placing them in the mouth. This was believed to establish an equilibrium, and prevent the patient from taking cold. This precaution, together with some thirty years' experience, has demonstrated their great superiority over animal teeth.

Planteau, of Philadelphia, abeut the year 1822, we believe, was the first Dentist in this country who made single plain Porcelain Teeth, for the purpose of mounting on plate ; French Teeth had been used to some extent prior to his experiments. S. W. Stockton, some ten years later, introduced single Gum Teeth, which established a new era in the history of Mechanical Dentistry in this country. These Gum Teeth were another innovation, and had to meet with and struggle against the prejudice and opposition of the "Fixed Dentist," who, for want of a better reason, urged that their weight was an insurmountable obstacle to their general introduction.

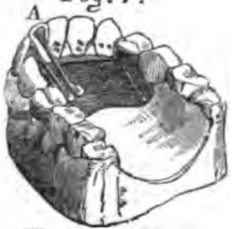
The satisfaction experienced by many on using the Gum Teeth soon led to the manufacture of Porcelain Block Teeth. Their superiority over single teeth was so manifest in all cases where a restoration of the face was desirable, that but for the difficulties attending the manufacture of carved blocks, they probably at this time would have been generally used in cases where artificial gums are required.

The introduction of Allen's Continuous Gum Work on Platinum, in the year 1851, was the next great advancement made in Dental science; and notwithstanding the apparent defects in detail at the time of its introduction, there has never been a discovery made that combines so much perfection, or better adapted for the purposes intended. Continuous Gum Work has superseded Carved Block Teeth in most cases where full Dentures are required, and will ultimately bring about an entire revolution in Mechanical Dentistry. Its advantages over every other style of work are being acknowledged, its application augmenting, and its beauty without a parallel. There are many Dentists now using Platina for the base of all partial cases, baking their blocks on the plate from Continuous Gum materials. It cannot be denied that this style of block work possesses many advantages over every other; the block is in pertect contact with the plate, there being no seam or space for the lodgement of foreign matter, and consequently is free from all effluvia, which cannot be prevented or corrected where single Gum Teeth or Carved Blocks are mounted in the usual manner. All Block Work is made stronger than single Gum Teeth, for the reason that the whole block sustains the force of mastication. If any hard substance is pressed against any one tooth, the force is distributed through the entire block, and consequently is less liable to injury from that cause.

A new system of block making has been developed, and its utility sufficiently demonstrated to entitle it to consideration with all Dentists who have a furnace at command, and desire to excel in their mechanical manipulations. This method secures all the advantages of Carved Blocks, without the objections and difficulties experienced in compounding the various materials which enter into their composition. The best silicious compounds for Continuous Gum Work are found to possess all the requirements necessary for strong and beautiful blocks. The two principal methods for making Continuous Gum Blocks for partial cases, on gold, are as follows:—

First, swage the plate and fit the clasps, (*if clasps are used*,) the same as if single teeth were to be employed; after all corrections are made, grind Continuous Gum Teeth, to wax on the plate the same as plain teeth, being careful to have the base of the teeth in contact with the plate, then remove the teeth and wax from the plate; clean the wax and all foreign matter from the teeth, oil the plate where the block is to occupy, and press tissue paper on the oiled surface, a little larger than you design the base of the block to be when completed. Now rearrange the teeth on the paper in their proper position, supporting them with a small roll or wire of wax, one end fastened to the teeth near their cutting edges, and the other end to the plate behind the paper, to sustain the teeth in their position while applying the body, allowing the fangs to diverge a little more than is wanted when finished, as the contraction of the body in the process of baking will bring them slightly together, as seen in cut, Figure 1.

Fig. 1.

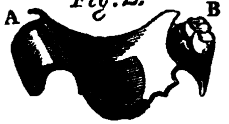


Representing a Block of six front Teeth arranged on a plate on a plaster model, with part of wax supports removed.

Then take Continuous Gum Body and fill in around the fangs on the paper, build up and carve the body into the form desired; when the body is partially dry, gently remove the wax supports, and fill in body on a line with the posterior surface of the fangs, leaving the pins exposed. Now place narrow strips of platina between the cutting edges of the teeth to preserve the spaces, and coat the body and teeth with a thick coating of shellac varnish; when the varnish is dry, take plaster and asbestos, equal parts, mix with water and invest the block, being careful not to allow any of the investment to come in contact with the plaster model; when the investment has set, remove the mass with the paper attached from the plate, and bake on a slab in the muffle of a common tooth furnace with a heat at the melting point of pure gold. After baking allow the block to cool down slowly; when cold remove the investment and mix a little more plaster and asbestos for a bed, and place on a slab, then press the base of the block into the mixture; when this mass has set, remove the block, and with a brush and water remove all adhering plaster—if any seams are visible they must be filled up with fresh body—and apply the gum enamel; now replace the block on the bed, and bake the gum at nearly a white heat, or until it has flowed smooth and glossy. The block should be removed to a moderately heated muffle, and, when a little below 212°, it should be placed in water of the same temperature, and remain until cold. The block is then ready for mounting. If the manipulations have been successfully executed, the adaptation of the block will be found complete, little if any grinding being necessary. The block is backed and soldered the same as Single Gum Teeth or Carved Blocks, and will be found to endure the heat of the blow-pipe as well as either of the latter.

The other method is somewhat different in detail, and as for strength, durability, purity and facility of repairing, is perhaps the best manner of mounting blocks on gold for partial cases We swage the plate and fit in the mouth as before, then solder a narrow rim, one sixteenth of an inch in width, on the plate where you design the block to terminate—as seen in Cut Figure 2, letter A ; B represents a block of two teeth mounted—then either swage or burnish a platina plate to fit the space inside the rim, and arrange Continuous Gum Teeth to wax on the platina plate, which is to be the base of the block when finished. Remove the teeth with the platina base attached, varnish the teeth and invest as before ; back the teeth with platina, as described in this JOURNAL, Vol. 1, Page 39, and solder with pure gold or gold foil; when cold remove the investment, saving that portion under the platina base to be used as a support for the block while baking. Now place the teeth in strong muriatic acid for twenty minutes, then wash in water to remove the acid, and apply the Continuous Gum body ; carve into form, and place on the support and bake as before. The heat may be carried somewhat higher, there being no investment in contact with the teeth to etch the enamel, and proceed with the baking as before mentioned. Before mounting the blocks, thoroughly polish the gold plate, after which apply a thick coat of varnish over both sides of the plate, except where the blocks are to be soldered, to prevent any solder from attaching to the surface. We now tin the platina base and the gold plate where the blocks are to set, and solder them together with pure tin over the flame of a spirit lamp. When cold place the work in warm alcohol to remove the varnish ;

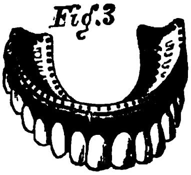
Fig. 2.



the work is then ready for the mouth. The gold plate undergoes no change by warping or otherwise in mounting blocks after this manner; if the rim is fitted to the block, there is no tin visible; in case of accident this work can be repaired with more facility than any other; the block can be removed by holding the work over a spirit lamp until the tin melts, placing the parts to be repaired in strong muriatic acid to dissolve the tin. The repairs can then be made, and the block mounted as above.

Cut Figure 3 represents a Continuous Gum Block, with a platina base, for indurated rubber, gutta percha, or cheoplastic work. This block is supported with a continuous rim or backing of platina, soldered to the plate around the entire case, to which the teeth are soldered with pure gold; the perforated margin is intended to secure the block to the rubber or gutta percha, which is pressed over the margin, and through the perforations, for the purpose of holding the parts together. This style of block has the advantage over Single Gum Teeth, or sections, inasmuch as there is no seam or joint to mar the beauty of the work. To mount this block on a cheoplastic base, all that is necessary is to bathe the platina with muriate of zinc before placing the block in the mould. The cheoplastic metal will then adhere to the platina, adding greatly to the strength of the case.

Fig. 3



FOURTH ANNUAL MEETING OF THE AMERICAN DENTAL CONVENTION.

THIRD DAY—MORNING SESSION.

Exposed nerves continued.

Dr. **Forbes**, the President, stated that if the nerve was freshly exposed and uninjured, he would let it alone, and fill over it. If wounded, he would apply tannin and glycerine, and fill. When he can not save the nerve alive, he extirpates it with an instrument, if he is smart enough. If the patient proved too smart for him, he destroyed it with an escharotic. He believed that was all.

Dr. **Kelsey** said, his patients were too "smart" to have their nerves extirpated with an instrument. When the pulp was wounded, he applied chloride of zinc and tannin, for the purpose of saving it. It was important to avoid pressure by too great expansion of the nerve. He said there were practical difficulties in extirpation by instruments, such as divergent roots, angles, etc. He was in the habit of using crude arsenic and chloroform, to destrov the vitality of the pulp.

Dr. **Rogers**, of Utica, suggested, that the vitality of the tooth was not lost by the death of the pulp, and that, therefore, these remarks which conveyed that impression were unguarded or incorrect. In using arsenic to destroy the pulp, he advised coating the surface of the cavity with wax, then displacing a portion of it over the nerve, and applying the escharotic to that point. He thought the tooth was less likely to be discolored. Over the arsenic he applied Plaster of Paris, where the cavity is accessible, or in such position that he can drop it in. He believed that to fill over the nerve when it is nearly exposed it will generally die.

Dr. **Taft** said, that in all that had been said on this topic, we had heard little or nothing in reference to the character of the constitution. As far as described, we would infer that all cases are alike. Now, he said, if we meet with an exposed nerve, in a constitution of low vitality, it is useless to try to save it. But when the constitution is good, we can save a majority of the cases. In many favorable cases, he said, the nerve would be protected by a deposit of osteo-dentine. He had frequently found this to be the case on removing fillings, to ascertain the condition of the teeth. For caps, he was in the habit of using oil-silk, horn, gutta percha, and similar non-conductors. After a tooth was thus filled, however, it might be lost by constitutional disturbance. If the exposure was large, and the pulp healthy, he would generally proceed as above. If inflamed he would protect it from irritating substances, and apply constitutional treatment; or, if necessary, he would resort both to local and general treatment. The vitality of a tooth, he said, was dependent both on the internal and external membrane. The vitality of the crown was lost by the destruction of the pulp. In reply to a question, he said, that when the exposure is slight, and the constitution good, nineteen in twenty cases might be saved. He based the statement on actual examination of cases, in which he had removed the fillings to ascertain the state of affairs.

IV. *Mechanical Dentistry.*

Dr. Frank Fuller, by request, described his mode of inserting partial sets, single teeth, etc., on suction plates. He cuts out the central part of the plate after stamping partially, then, after having made it fit his cast and plaster model perfectly, he stamps another portion of plate over it, to form the chamber, and solders it. The chamber has thus a definite border, and is, at its margins, only the depth of the thickness of the first plate. (As well as we could understand him, it is made in the same manner as the Cleveland chamber, except that no space is left between the plates.—Rep.) The square edge he considered a decided advantage. A chamber otherwise formed, he thought tended to draw an excess of the membrane into it, consequently it soon became filled, and there was of course no vacuum. He remarked that the same principle had been applied to breast pumps, and the result was, equal suction, with much less pain. In forming the chamber, he thought it was important that it be not placed too far forward. When it is, the plate glides forward as it adheres.

Dr. Morgan said, that his mode was to form the chamber, by striking up the plate over a lead pattern. His experience differed from that of Dr. F. in regard to square-bordered chambers. He preferred a chamber formed by swaging, to the Cleveland chamber, or even to the modification of it practiced by Dr. F. "When the plane of the chamber looks forward," he thought the plate would run forward.

Dr. **Chase** said he used the Cleveland chamber seven or eight years, but had abandoned it. It produced irritation, and caused an excrescence on the membrane that was both unsightly and annoying. He inserts nearly all his partial jobs on suction plates. In swaging a chamber, he made its borders as square and definite as practicable In soldering two plates together, he thought there was great danger of warping. To prevent the plate running forward, he let a little spur of the plate, having its border thickened, rest against a tooth. He had found this altogether satisfactory.

Dr. **Murray** said, he had seen a piece of work which had been worn some time, which gave him a prejudice against "cut out" chambers. The cavity was very deep, and was filled with an enormous fungous growth. After two weeks' treatment, with the plate out, the tumor was still quite prominent. He said he could stamp a chamber with borders "square enough."

Dr. **Allen** having been absent at the commencement of the topic, now read a paper, reviewing the subject at considerable length.

Dr. **Roberts** described at length his manipulations in making continuous gum work, illustrating each part of the process with specimens. He spoke also of the general properties of platinum, and of the difficulty in preparing its scraps for use.

Dr. **Vandervert** said, that as to the difficulty of uniting platinum scraps, he could weld them together with no other appliances than a blow-pipe, piece of charcoal, a hammer and an anvil Dr. V. went down to the laboratory of the College with Dr. Roberts, welded two pieces together, and returned. The welded specimen was passed round by Dr. R., and Dr. V. was requested to describe minutely, his manipulation. He said, if he wished to unite a number of scraps, he rolled out the largest one quite thin, and enveloped the others in it, then heated the mass to a high heat, placed it quickly on an anvil and gave it a blow with a heavy hammer, then reheated and gave it another blow, and so on, changing its position each time. In a short time, he said, the whole mass would be thoroughly welded, and could be rolled into plate as desired.

On motion, this topic was laid aside for the time, and the subject of filling teeth was resumed. It was suggested that each member take a special cavity, and describe his mode of filling it.

Dr. Atkinson described his method of filling the second left upper molar, the cavity being in the posterior approximal surface. He said, that if he could find a lawful excuse for extracting the third molar, he would like to have it out. But if his conscience would not let him remove it, then he would separate freely, so as to have ready access to the cavity. After removing the decay, he would form grooves or pits, as retaining points, insert and condense his gold as usual, finishing near the middle of the cavity.

Dr. Taylor inquired how Dr. A. would manipulate if the patient had long hair all around his mouth.

Dr. Atkinson said, he would shield that below the mouth with the napkin,—that above he would stick together slightly with gum mucilage, and lay it to one side. He said he often used the mallet in condensing the gold, and maintained that less violence was necessary by this mode than by any other. It was important, he said, to go over the gold but once, with the condensing instrument, as otherwise, the next piece would not adhere so readily. When the gold is sufficiently condensed, the mallet rebounds from the instrument.

Dr. Allport selected an anterior approximal cavity in the left lateral incisor. He would separate by wedging, if practicable.—Even if the patient were not young, he would resort to this mode, if other circumstances were favorable. If necessary, however, he would file—he would obtain space sufficient to enable him to reach every point of the cavity. For the cavity under consideration, he would use very fine pointed pluggers. He would insert a piece of wood between the necks of the teeth, to keep the upper portion of the cavity dry. The great danger of defect was next the gum ; and, to obviate this, he would insert a large cylinder at this point, and press it firmly into place with a flat, smooth instrument, leaving a portion of the cylinder projecting from the cavity. Then he would add, successively, soft cylinders, till but a small portion of the cavity, next the cutting edge, is left. This he would fill with crystal gold, or adhesive foil, and but little pressure would be required to render it efficient. He did not say that this would make a *perfect solid* filling. He did not believe that could be done. He had heard of fillings as solid as molten gold, but he never expected to see any; and fortunately such fillings were not necessary. The tooth could be preserved by one much short of solid gold. He had seen, at this meeting, a fine looking filling, which was perfectly preserving the tooth, which had been inserted by a very distinguished operator, and was yet so soft that it could be pierced by a pointed instrument.—He said, that while he was up, he would make a remark on the discoloration of crystal gold, and "crystal gold foil." Much had been said in regard to the former changing color; and the charge of impurity had been brought against it. The latter, however, was subject to the same change; and he believed that with both, the fault was not in the material, but in the manipulation. The usual instructions for filling with crystal gold, directed us to begin at the bottom of the cavity, and condense toward the sides, manipulating so as to keep the surface of the filling concave. This, he thought, was incorrect practice. When the surface was concave, he said, that when pressure was made on a piece of gold, in adapting itself to the concavity, it is drawn away from the walls of the cavity. The result is, the filling does not fit tightly to the walls of the cavity, foreign agents are admitted, and discoloration ensues. His mode was to have the filling convex as he progressed,—to keep the plug the fullest in the centre. By this mode, he maintained that the tendency of the gold, under pressure, would be toward the walls of the cavity. And even when the pressure was directly on the centre, it would be like pressure on the keystone of an arch, tending to force the extremes of the arch further from each other, and consequently, more firmly against the walls.

Dr. Stone selected, by request, a posterior approximal cavity in a lower bicuspid. He would make a V shaped separation, leaving a shoulder to prevent the teeth closing together. He would leave no sharp edges to the filed surface. Having prepared his cavity, he would wedge away the gum with a piece of wood between the necks of the teeth, then dry the cavity with "boiled cotton," and introduce the gold. The part of the cavity next the neck of the tooth, and that next the indentation, are the points to be most closely watched.

He uses, for this cavity, pluggers bent to about forty-five degrees, and would use about three of them, one being flat to condense next the gum after the gold is introduced. He uses blocks, or pellets, prepared from loosely folded strips, begins at the bottom of the cavity—the wall next the gum—and finishes near the middle, piercing the plug, or even drilling into it, to introduce the last piece. He would then file off the surface and condense farther, file again, and again condense, and then finish as usual. In reply to a question he said he did not believe it was necessary to have all the moisture out of the cavity.

THIRD DAY—AFTERNOON SESSION.

"Filling Teeth," continued.

Dr. **Perine** described his manipulations in filling a right superior bicuspid, the pulp dead and the tooth badly broken down. He endeavored to restore the shape of the tooth, and succeeded by preparing the canal, inserting a gold wire into it, leaving it to project, so as to strengthen and retain the filling, as it was built out from the remaining wall. He spent the entire day on the tooth. He said it was difficult to control the saliva in prolonged operations, and remarked that he sometimes gave the patient a saucer, telling them to use it in case of overflow. The result was that there seldom was any overflow. The anxiety being lessened, the salivary glands did not act so freely.

Dr. **Rogers** of Utica, described and recommended an instrument for condensing plugs, after all the gold is introduced. He called it a "serrated burnisher," and said it was made by polishing a serrated or grooved instrument with a brush, and its advantage was, that it condenses the gold without cutting it. The pressure is applied with a kind of "rolling motion." He also suggested the propriety of filling deep cavities partly full of some *non-metallic* substance, before using the gold. It was necessary, he said, to study economy with some patients, and if some indestructible, non-metallic substance could be used, without risk to the tooth, an important point was gained. He had tried two metals in the same tooth, supposing that, if the moisture of the mouth was excluded, no galvanic action could ensue, but he found he was mistaken.

Dr. **Stone** said, that Dr. Talbert of Lexington, had experimented in this method, and was successful thus far.

Dr. **Dunham** thought, that many teeth might be saved by filling deep cavities partly full of some soft material. He reported a case in which osteo-dentine was formed under gutta percha. In small towns especially, some cheap mode is very desirable, if effectual. He thought plaster of Paris a convenient and valuable material to place in the bottom of a deep cavity for this purpose.

Dr. **Branch** said, he used plaster mixed with slakened lime made from marble, for the bottom of the cavity, and fills over it with gold. He uses the mixture to preserve the color of the tooth, and as a non-conductor.

Dr. **Tuttle** said, that in filling the nerve cavity of a front tooth, he would drill through its lingual surface, and fill with the same instruments he would use for a small cavity. He uses serrated points, deep cut, if the instrument be large; not so deep if small.

(At this point, Mr. Mussey, of the Cincinnati *Gazette*, by request of Dr. Bonsall, announced to the Convention, that the *Niagara was in Trinity Bay with her end of the Atlantic Cable, and that she was in perfect connection with the Agamemnon.* As one man, the members arose to their feet and gave spontaneously, three hearty, vociferous cheers. Mr. M. then announced that the exact locality of the Agamemnon was not yet known. A member shouted: "Three cheers for our side, any how!" These were given with a will; and, with happy countenances, the members quieted down to business.)

Dr. **Wright** said, in regard to the use of plaster in the bottom of deep cavities, it should be known that the plaster can be rendered no harder by the addition of other materials to it. If rendered anhydrous by calcination, he said it would be harder.

Dr. **Berry** thought if any experiments were tried in this direction, the French plaster should be used, as it is much harder than that in common use.

Dr. **Taylor** said, good fillings can be made in various ways. If he found an operator making good fillings by any one mode of manipulating, he was not anxious to have him change it for another. By request, he described his method of filling a posterior approximal cavity in a lower molar. He would cut away the tooth until he could see the entire cavity. He must have perfect room to work. He often cut away one third of the grinding surface of the tooth, so that the tongue could displace any food that might lodge in the space.

He would form the base of the cavity—the wall next the gum—into an inclined plane, then he would cut under the corners, at the upper portion of the cavity, to form retaining points. He would prepare his gold in blocks, or cylinders, using gold sufficiently adhesive to prevent its unrolling. The first block he would have large enough to extend across the entire base, and a little outside of the cavity. Having prepared his blocks of various shapes and sizes, with some formed into cones for finishing with, he would take the first block, and with a flat instrument press it firmly against the base of the cavity, and if large enough it would stay there. Then he would add block after block, selecting shorter ones as he approached the upper portion of the cavity, condensing each block thoroughly as he put it in. If well condensed, they need not project much beyond the cavity. He had nothing peculiar in his mode of finishing. Being requested to make some remarks on filling the fangs of the upper molars, he said he wanted every part of the nerve removed ; and his method of obtaining this, was to drill through the centre of the crown, and freely expose the pulp cavity, and then take out the nerve with broaches. He thought young operators often failed by not freely opening the cavity. They were too fearful of cutting away the tooth.

Dr. **Lindsay** said he was opposed to wedging the teeth to separate them. There was danger of elongation, or protrusion from the socket, resulting from it. He was in the habit of filing freely ; and he never leaves a square shoulder. The farther back in the mouth the larger the V should be made in separating.

Twenty minutes being, on motion, assigned to the consideration of local anæsthesia,

Dr. **Branch** said, that in the subject of local anæsthesia by congelation, he was less interested than the profession. (Dr. B. is the patentee of an instrument for congealing the gums for the purpose of extracting teeth without pain.—Rep.) He said this application had many advantages. It was harmless. There might be, he said, cases in which it would do harm, but he could think of no condition in which it would be injurious. As a remedial measure, he said, its usefulness extended far beyond the extraction of teeth. It relieved sensitive dentine, periostitis, inflammation of the gums, and kindred pathological conditions. He exhibited the instrument, and described minutely the method of using it. He said he would like to hear the result of Dr. Taylor's experience in the use of it.

Dr. **Taylor** said his experience had not been uniform. Sometimes it acted pleasantly—other times not.

Dr. **Tefft** exhibited a liquid which he used locally to destroy sensibility, and prevent the pain of extraction. He moistens two pledgets of cotton with the liquid, and applies them to the gums, for a minute or two, over the tooth to be extracted. He said he had been offered fifteen hundred dollars for the formula, which was no patent, and which he now gave freely to the profession. The recipe is as follows :—

Take, Tincture of Aconite,
Chloroform, Alcohol, each, an ounce,
Morphine, six grains. Mix.

Dr. **Roberts** said, he had extracted some two hundred teeth, with the use of the galvano-electric current. The results varied somewhat, but the patients generally claimed that there was less pain.

Dr. **Dunn** said, that a lady now in Delaware, O., had her teeth extracted *two years ago*, under the influence of electricity, as directed under the late patent. She was well pleased with the operation, and said there was little or no pain.

Dr. **Berry** said, that good old brandy was a first-rate anæsthetic. He had seen it used with good success.

VII. *Miscellaneous Business.*

Dr. **Wright** exhibited a plaster model of an upper denture which he treated for irregularity. It was a complete case, and was successfully treated ; but without cuts we can not make it very intelligible to the reader.

Dr. **Allport** exhibited a set of continuous gum work, on platinum, which had seriously affected the patient's health, producing severe inflammation of the mouth and neighboring parts, which, he maintained, was not caused by mechanical pressure or irritation, as the patient had previously worn silver plates, and now wears gold ones with impunity. The gum materials were from the same parcels which he used both before and since the occurrence referred to without any bad effects. He wished for light on the subject.

Dr. **Rogers** reported a case in which similar results followed the use of a gold plate. He thought the quality of the plate had nothing to do with the difficulty.

Dr. **Watt** mentioned a case in which a small twenty carat gold plate produced severe nausea and vomiting—the nausea continuing through a period of some months, as regularly as the plate was worn. The patient was a physician, and was resolved to overcome the difficulty by perseverence. He had not heard for a few weeks how he was succeeding.

Dr. **Dunn** exhibited specimens of porcelain work according to Loomis' patent, which he thought had decided advantages over all other styles of work. He maintained that it was cleanlier, stronger, more natural in appearance, easier made. and every way more efficient than other styles.

Dr. **Rehwinkle** described a case of necrosis of the inferior maxilla, which occurred in his practice He removed the dead bone, and the teeth it contained. These he exhibited to the Convention, and then presented them to the Ohio College. Altogether it was an interesting case.

Dr. **Conway** made some remarks on his dental lamp. This lamp is patented by Dr. C., and is intended to answer all the purposes for which heat is required in the dental laboratory. Dr. C. exhibited its powers and uses, at various times, in the laboratory of the College, during the sitting of the Convention.

Dr. **Osmond** described a method of soldering lower sets, which he had not tested on gold plates, but which was very satisfactory with silver. Owing to the low tones of Dr. O., and some confusion where we sat, we are unable to give his method.

Dr. **Allport** exhibited an appliance, which was successful after other means failed, in retaining a fractured lower mamilla in proper position. In this case the general surgeon recognized the dental surgeon as his professional brother, applied to him, and received just that assistance which he needed.

Dr. **Willson** reported a case in which the first bicuspid made its appearance through the cheek, near the mental foramen. It was natural in form and appearance—normal in all respects, except position. He found it quite difficult to extract. The patient's jaw had been fractured in early life.

Dr. **Lupton** said he put an amalgam filling in a tooth that was badly decayed; and to prevent the amalgams showing through the enamel, he laid a portion of gold foil against the anterior wall of the cavity, and put the cement in behind it. The patient, he said, complained of a peculiar sensation about the tooth, especially when the tongue touched it, and he wished to know why. A member responded that he had simply erected a " thunder mill" in the tooth.

FOURTH DAY—MORNING SESSION.

Dr. **Murray** read a paper on diseased antrum, and detailed his treatment of a complicated case.

Dr. **Allen** reported a similar case less marked.

Dr. **Kelsey** reported three cases in his practice, all successfully treated. After opening the cavity through the socket of the second molar, he injected warm water, followed by a " solution of zinc." Otherwise there was nothing peculiar in his treatment. The cases terminated favorably.

Dr. **Perine** reported a case of diseased antrum which seriously affected the sight. The molars on each side were filled with amalgam. He removed these and the patient recovered.

Dr. **Wright** reported a complicated case of diseased antrum, in a scrofulous patient, which terminated fatally. Also a case of irregularity, in which the lower teeth shut outside of the upper ones. He remarked that when contraction of the jaw takes place from premature extraction, the front teeth go backward, not the back ones forward

Dr. **McCalla** read a paper on lateral pressure of the teeth.

Dr. **McKellops** reported a case of protrusion of the lower jaw, which he was correcting by the use of the " Fox bandage," as described in Harris' Principles and Practice.

On motion, one hour was devoted to the subject of filling teeth.

Dr. **Palmer** described his method of filling an approximal cavity in a front tooth. He separates so as to fill from the lingual surface of the teeth. He discriminates in regard to the different methods of separating. If the necks of the teeth are narrow, in wedges. He makes the cavity triangular, with the apex downward; and in inserting the filling, he finishes at the apex. He polishes the filed surface with pumice, and then with rotten stone.

Dr. **Rogers** described a file, shaped like a knife blade, which cuts by drawing instead of pushing. With this, he said, it was easy to separate posteriorly, without filing the labial surfaces to any extent.

Dr. **Fuller** said his old method of filling, was, to begin with soft cylinders, prepared according to the dimensions of the cavity, and finish with hard ones. A cylindrical cavity, he thought, was better filled with non-adhesive, than with adhesive gold When he resorts to the adhesive style, he uses Watts & Co's "Crystal Gold Foil."—He makes a groove, or pits, at about the junction of the dentine with the enamel. If the cavity is large he inserts a large pellet, using smaller ones as he progresses. When he gets to the groove, he forces the gold into it, and welds it to the mass in the bottom of the cavity. He controls the sublingual ducts by placing a roll of napkin beneath the tongue, and the parotid by bibulous paper. He inserts a wedge of wood, or piece of rubber, between the necks of the teeth, to keep the border of the cavity next the gum, dry.

Dr. **Forbes**, by request, described his method of preparing cavities. For central cavities, in the upper molars and bicuspids, he uses a straight gouge, beveled from the inner side. With this he cuts down the sides of the cavities, as a mechanic would the sides of a mortice with a paring chisel. For similar cavities in the lower teeth, he has his gouge bent at right angles ; for approximal cavities, he uses four gouges, bent at right angles, and the edges facing four different ways. For following the seams in the grinding surfaces, he uses a V shaped gouge. He states that files cut at an angle of sixty or seventy degrees would separate the teeth with less pain and jarring—are pleasanter to both patient and operator. He uses "water stone" to sharpen his instruments ; oil stones, he said, were a filthy institution.

Miscellaneous business being again in order,

Dr. **Chandler** made some remarks on hemorrhage of the gums, and his treatment of the same. He reported a severe case of hemorrhage, resulting from lancing the gum around an incisor tooth, to relieve pain. The ordinary astringent applications were used without effect ; but a free use of ice water to the head and neck worked like magic. It was instantly arrested, and was not renewed. This case occurred in 1840 or 1841 ; and, since that, he resorted to the same course in all obstinate cases, and had found it satisfactory.

His theory was, that the cold caused contraction of the muscular coat of the arteries, and prevented the accumulation of blood about the head.

Dr. Tuttle said, that as a compress, in suppressing hemorrhage after extraction, he uses dry sponge, firmly compressed.

Dr. Rogers of Utica, said, that pressure was much more reliable than styptics.

Dr. Watt said, that the two were easily combined; and in using styptics it was important to make the proper selection. He referred to a case of hemorrhage which occurred in the mouth of a prominent medical teacher. The patient applied pressure and sulphate of copper; and the hemorrhage was arrested only a few minutes at a time. The use of tannin, with no more efficient pressure, made, at once, a permanent arrest. The reason of this may be found in the fact, that the salts formed by a union of albumen with the metallic sulphates, nitrates, etc., is soluble in an excess of albumen. Consequently the coagulum would be dissolved, as the flow of blood continued against it. But when the tannin acid is used, the tannate of albumen is formed, which is not soluble in any constituent of the blood.

Dr. Osmond said, it was important, in obedience to the laws of hydraulic pressure, to apply the styptics and pressure directly on the mouth of the bleeding vessel. By observing this, he would no despair of any case.

Dr. Atkinson remarked, that two deaths had occurred in Cleveland from hemorrhage of the gums during dentition. He spoke favorably of tartaric acid as a styptic.

Dr. Charles Merry, of St. Louis, exhibited an improved drill stock, which was greatly admired by all present.

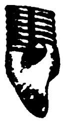
After a vote of thanks to the profession in Cincinnati for the entertainment and carriage excursion, and to the faculty of the Ohio College, for the use of its halls, the Convention adjourned.

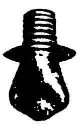
[Many cases were reported and specimens presented which were interesting, but which we are unable to describe satisfactorily in print. The papers read may be seen in the *Dental Register of the West.*—Eds.]

IMPROVEMENT IN TEETH FOR CONTINUOUS GUM WORK.

BY JOHN M. CROWELL.

Messrs. Editors :





At your request I send you a description of the new teeth designed for Continuous Gum Work.—They are formed *like the natural teeth*, with the crown shaped inside as well as out; a slot or cut is made through the fang down and into the crown, to be set astride a rim to be firmly soldered to the alveolar ridge of the plate. The advantages claimed for this mode, are—lightness, increased stiffness to the plate; ability to finish as long a crown to the teeth inside as may be desired; saving the teeth from the solder heat and consequent frequent etching or roughening; saving of time in soldering in the investing, setting, heating and cooling of the plaster and asbestos.—The small points or projections at the side ot the fangs, are designed to be grooved, or jointed, and keep the teeth in their proper position, and the relative distance apart when astride of the rim.

In answer to remarks made in reference to my applying for a Patent for these teeth;—Previous to my commencing the manufacture of Teeth, my entire time for many months was spent in carving patterns, and at the elbow of my mould-cutter, resulting in the production of various styles of teeth, combining beauty, ease, natural expression, with a slight regularity not heretofore attained. These teeth, meeting with unqualified approval, induced several of the manufacturers to copy and pirate my patterns; it is to avoid a repetition of this abuse, (and not to increase the price,) that has induced me to patent this style of teeth I avail myself of the opportunity to present to Dr. B. W. Franklin my acknowledgements for his assistance in carrying out the design of these teeth.

BIBLIOTHECA ODONTALOGICA.

Baumes.—Traité de la première dentition et des Maladies, souvent tres graves, qui en dependent, 8vo. Paris, 1806.

Bew, C.—Opinions on Diseases in the Teeth and Gums, 8vo. London.

Bodenstein, Adam.—Zahn-Arzney, 8vo. Franckfurt, 1576.

Botot.—Moyens sürs de conserver les dents et de calmer les donleurs qu 'elles occasionent, 12mo. Paris, 1786.

Brifeld.—Dentitio Difficilis, oder das Zähnen als Krankmachende Potenz, Hanau, 1840.

Bruck.—Ueber Zahnkrankheiten und das Zâhnärztliche Verfahren. Ein wort zu seiner Zeit, Liegnitz, 1840.

Buccon, P.—Dissertation sur un préjugé concernant les maux des dents des femmes enceintes, Paris, 1741.

———— Essai sur les Maladies des dents, Paris, 1743.

———— Expériences et démonstrations faites à la Salpétriére et à Saint-Côme, en presence de l' Académie de Chirurgie, pour servir de suite et de preuves a l'essai sur les maladies des dents, 8vo. Paris, 1746.

C.

Caigne, Francois.—Dissertation sur la Dentition des enfans du prémiere age, et les accidens qui l'accompagnent, 4to. Paris, 1805.

Caliga, Carl Procop.—Ueber die Krankheiten der Zähne und die Mittel sie zu heilen, 8vo. Wien, 1838.

Cameron, D. A.—Advice on the Teeth, London, 1838.

Campani.—Odontalgia ossia tratato sopra i denti, loro cura o la maniera di extrargli, 8vo. Florence, 1789.

Carabelli, Edler Von Lunkaszprie, Geo.—Systematische Handbuch der Zahnheilkunde, 2 vols. 8vo. Wien, 1831, '44.

Cardonus, Hier.—Ejus opuscula medica senilia, [de dentibus,] 8vo. Lien, 1638.

Castrillo, Franc. Mortier De.—Ejus de Dentitione, 8vo. Walladolid, 1557.

Chemant, Dubois De.—A Dissertation on Artificial Teeth in general, 8vo. London, 1798.

Clarke, J. P.—Treatise on Teething, post 8vo. London, 1839.

———— Teeth and Dentition, Sq. London, 1839.

———— Robert.—[*Surgeon, Sunderland,*] Account of a Key Intrument of a new Construction ; with observations on the Extraction of Teeth. [Med. Facts VI. p. 120.] 1795.

Clendon, J. C—On the Teeth, 8vo. London, 1844.

Cleophas, Michael.—De Dentibus, 4to. Witteb. 1637.

Cogan, J. D.—On the Teeth, 12mo. London, 1843.

Conring, Herman.—Ejus Disputatione de Natura et Dolore Dentium, 4to. Helmstad, 1672.

Cook, Aug.—Essay on the Teeth, 12mo. London, 1849.

Courtois, Honore Gaillard.—Le Dentiste Observateur, ou Recueil d' Observations, tant sur les Maladies qui attaquent les gencives et les dents, que sur les moyens de les guérir—*Figures*, 12mo. Paris, 1775.

———— Gründliche und auf Erfahrungen gestutzte Untersuchungen der Beschaffenheit und Krankheiten der Zähne und der Art sie zu heilen. Aus dem Französischen, 8vo. Gotha, 1778.

Cumme, Aug. Car. Geo.—Dissertatio sistens Dentium Historiam, 4to. Helm. 1716.

Curtis, Richard.—Treatise on the Tooth-ache, containing full directions for its Prevention and Cure, 8vo. London, 1769.

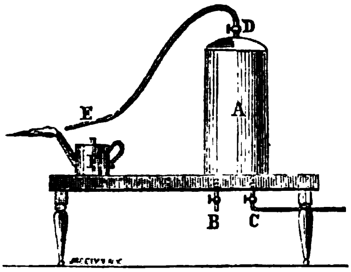
———— Treatise on the Structure and Form of the Teeth, 12mo. Oxford, 1769.

Do. do. do. [In German.] 8vo. 1770.

Cuvier, Fred.—Les Dents des Mammiféres considérées comme Caractéres Zoologiques, 8vo. Paris, 1825.

HYDROSTATIC BLOW-PIPE.

[*For the benefit of the Profession at large, we publish the following description of the " Hydrostatic Blow-Pipe," of which several are in operation in various laboratories in this City, but which cannot be said to be generally known among Dentists. The great practical value of this invention cannot be too highly considered, and as the following Cut and description are clear and full, every Dentist can readily, and at little expense or trouble erect one for himself, and its usefulness will be readily seen.*—EDS.]



A represents an upright Copper Cylinder, four feet in height, and twelve inches in diameter.

B the Supply Pipe and Faucet.

C the Discharging-Pipe and Faucet.

D an Air Tube extending from the top of the cylinder, and through which the air is conducted to the flame. It can be attached to a gas-jet, or used with the common blow-pipe, as choice or convenience will allow.

The Cylinder being emptied, the air rushes in through the tube D to fill the vacuum ; the Cylinder is then filled with water, compressing the air, and throwing it with great force from the mouth of the tube upon the flame, this force being regulated by a small stop-cock near the mouth.

For the use of such as are unable to obtain water-power, a substitute is easily found as follows : The top of the Cylinder being left open, a second Cylinder, open at the bottom, is made to fit so as to slide into the opening. The lower Cylinder being filled with water, and weights placed upon the upper, the same compression of the atmosphere is produced, and the desired effect obtained.

THE LONDON DENTAL SOCIETIES AND THEIR ORIGIN.

Ever since the "Confusion of Tongues" put an end to the progress towards completion of the Tower of Babel, men have leaned towards association as a means of accomplishing great works; and often the same unfortunate climax has been their fate. Yet this does not—as the destruction of the Tower of Babel did not—change the opinions of men as regards the efficacy of the principle comprised in the pithy saying, "two heads are better than one." All over the world we have had societies for the performance of all kinds of labor, in all kinds of ways; from the great East India Company (now defunct) down to the little Dorcas Society which holds its weekly meetings in the little village of Squabbleton, Mass. there may still be dug out of the ruins of opinions, dissensions and *désagremens* of all kinds, this principle, "in unity is strength." Perhaps in no country has the principle more extensively, and in very many cases more ridiculously, developed, than in our own. We have arrived at that point when a man can do nothing alone; and if a church is to be built, a flag-staff raised, a presentation made, or a dinner given, straightway is there a meeting called, a society formed, and then the church is erected, the flag-staff stands boldly up to the sky, the plate is given, the dinner eaten. Now this is all, doubtless, very foolish on paper, but in real life it becomes quite a serious matter. And when we hear of the Dentists of London going to work heart and hand to establish a Dental Society, we are well pleased to see our brethren across the sea so worthily following our example. There seems, however, to be one drawback in the way of our feeling and expressing unmixed gratification at this result; and that is this fact: Not satisfied, as it seems from the evidence before us, with the erection of one Dental Association, the English Dentists must perforce have two; and from that period forward their valuable time has been exhausted in dissensions and squabblings, which to us, at least, do not seem to add to their dignity, or to have advanced the cause which they profess to have at heart;[1] and it is a question with us whether these dissensions led to the formation of the two societies, or the latter has to answer for the former. For some time previous to the year 1856 there had been a slight movement perceptible among the profession in England, and various leading articles appeared in the Medical Journals of the day tending evidently towards an improvement in their position and character as a body. For many years evils had been known to exist among those who practiced Dentistry, which had become so firmly fixed, as to require radical rooting-out from their fastnesses. Perhaps the most shameful of these evils was the improper distribution of professional powers, without responsibility, among those who had no professional knowledge, and consequently no professional reputation to protect. Thus druggists, grocers, and even watchmakers and goldsmiths, if we are to believe rumor, had connected with their other duties the practice of Dentistry. The title "Surgeon Dentist," so dear to the heart and eyes of every London Dentist, was maliciously stolen and flaunted in their astonished faces by the most unmitigated quacks. This could not go on; and after vain attempts to crush the difficulty single-handed, the Profession formed themselves into a Hydra-headed Dental monster, to do battle for the sake of the cause. On the 22d September, 1856, a meeting of Dentists, pursuant to call, was held in London, and attended by many of the most influential of the Profession. This meeting proceeded, as such meetings usually proceed, to draft resolutions, appoint temporary officers, and preliminarily argue the question before them. It was then proposed, that not only should a society of Dentists be formed, but that immediate steps should be taken to create a DENTAL COLLEGE. Here was the rock they split on; for although very many of the profession were in favor of instituting a Dental Society, there were few who were willing to attack the prestige of the old College of Surgeons by such action. It was argued in favor of the new project, and very properly, that the right to a Surgical Diploma from the College of Surgeons could only be obtained after years of unremitting toil, and that in pursuit of objects utterly valueless when obtained. Of what use, said they, to us can be the knowledge how to amputate a man's leg? When shall we probably be called upon to operate for cancer? Is it likely that we shall even be sent for to attend a severe case of compound frac ture of the hip joint? And to this the old conservatives could answer nothing; but by firmly holding to that steadfastness so beautiful in the English character, but which we, unfortunately, call stubbornness, they opened a chasm between them which all thetr policy has not yet been able to close up Thus grew out the *Odontological Society* and the "*College of Dentists.*" And the difference between them seems to have been just this: The *Odontological Society* very properly relying little upon their own unaided efforts for stability—feeling that a spinal difficulty was rapidly becoming chronic, and that they were indeed weak—proposed to combine with the College of Surgeons, and obtain their diplomas in the old manner. The *College of Dentists*, on the other hand, wished to throw aside all connection with that body, and, obtaining a charter, educate their own men for their own profession, and in their own way; thinking a Dentist could but obtain his education from Dentists, and not from Surgeons.

Fortunately for the progress of the profession in England, there were found men who were unwilling to sacrifice their independence and prospect of proper education and future success, to the childish scruples of a few old fogies. They saw that a profession including so many members as our own;—a science in which something new is daily being discovered, surely were entitled to their own teachers as well as their own exponents. Thus the Dental College came to be established; and it is with pleasure that we are able to record its complete success thus far. Lectures are being read by the best men in England, Professorships are being established, and there is little doubt but the COLLEGE OF DENTISTS will yet become as successful, as creditable, and as honored an institution as the LONDON COLLEGE OF SURGEONS.

[We copy the following article by permission of the Author, from the "American Journal of Dental Science" for January, 1858. We propose to publish a series of similar articles from the same pen at a future period, and as this is an important and valuable article, we give it in full.—Eds.]

Deformity occasioned by Contraction of the Arch of the Superior Maxillary and Irregularity of the Teeth. successfully treated. By Dr. W. Dalrymple, Dentist, New-York.

Editors of the American Jour. of Dental Science:

Dear Sirs—Through the kind appreciation of Stephen Smith, M. D. editor of the New York Journal of Medicine, and at his solicitation I was induced to take professional charge of a case presenting many peculiarities with extraordinary obstacles to be overcome. I have had the same under treatment for something over a year with a view to correct a deformity arising from very great contraction of the arch of the upper jaw, and involving also irrogularities of the teeth. As doubts have been expressed by some of our best surgeons as to the possibility of relief through dental appliances, I am induced to send you a history of the case and the means by which the deformity was remedied.

The patient was a very interesting girl, 13 years of age, who had been operated upon in infancy for double hair lip. But the operation had only partially relieved the deformity. A large portion of the alveolar process with the gums of the deciduous incisor teeth were removed by the operation, and at the time I saw her there was nothing left between the canines but two elemental portions of teeth, which I subsequently removed. The articulation of the teeth was such as to leave the remaining upper teeth in their entire circle, closing on the inside of the lower ones. The upper ones being firmly clasped by the teeth ef the lower jaw, and of course so acting upon them as constantly to increase and confirm the deformity. The superior cuspid teeth were broughtalmost together.

The palatine arch was so contracted that the sides on perpendicular portions were brought in positive contact, so much so that it was difficult to pass a thin letter-folder into the fissure thus formed. The lower jaw was protruding to a very great extent—the superior canines closing about one-fourth of an inch inside and back of the lower ones. It was very evident that the action of the lower teeth upon the upper ones must within a short time have brought the upper canines and bicuspids quite together. Add to this the contraction of the upper lip, which was greatly shortened from being cut away and from having no teeth to support it—and the fact that the cartilage or point of the nose was drawn down, and you have a portrait of the case as I found it.

Having many doubts of the practicability of any operation to overcome these manifold difficulties I gave but little encouragement to patient or friends. Yet, being confident that the only remedy must come from our profession, I was willing to make an attempt. My first object, so to speak, was to unlock the jaws, and to break up the constant tendency by shutting the mouth, to increase the difficulty.—This was done by first preparing a firm plate for the basis of my future movements, upon which was soldered studs to keep the jaws apart, to break up the articulation, and at the same time so arranged as to act as inclined planes in moving the two sides of the upper jaw outwards or from each other whenever the jaws were closed.

This fixture was placed on the lower teeth, and was worn for some weeks, but not making any considerable progress, I was induced, in connection with it, to try the bandage described by Dr. A. Westcott.* This was worn only during the night, as then the muscles being in a relaxed state, and no voluntary resistance to its action would be exerted by the patient, the effect was doubtless nearly as great as if worn during the whole twenty-four hours.

With the view of accomplishing the same end—that of spreading the jaws laterally, I also used a bar of wood reaching from one canine tooth to the other, and of such length as to press firmly upon them.—This was supported in its place by a plate that was swaged to fit accurately to the palatine portions of the upper jaw, and about the necks of the teeth. To this was soldered two loops through which was passed the bar or brace. These were renewed and lengthened from day to day, and were of the greatest service in producing the desired effect. I beg leave here to say, that in all cases where bars or braces are to be employed for similar purposes, I regard wood by far the best material. This is more agreeable to the sense of taste—less unpleasant in its pressure upon the tooth—is more easily adjusted and retains its position far better than any metallic substance. I would here take occasion to speak of the very ingenuous "little jack screw," of Dr. Dwinelle, a most effectual apparatus in many cases, yet in the present I was wholly unable to use it, owing to excessive galvanic irritation. This, however, may be in part owing to the manner in which I applied the fixture, as Dr. D. informs me that he has applied these fixtures in precisely similar cases, without the least galvanic irritation. Indeed, I believe he claims for the lifting screws, that, notwithstanding they are constructed of steel, while they are loaded with zinc the latent galvanic action thus involved forbids their rusting or consequent irritation. The combined operation of the inclined planes, bandage and wooden bars had the effect within four or five months, to spread the jaws sufficiently to bring the upper bicuspid and molars of this jaw to fairly antagonize with the corresponding ones of the lower jaw, and also to greatly diminish the protrusion of the skin. While this was advancing, I was constantly bringing forward the teeth of the upper jaw by the use of wooden *wedges*. Commencing with the canine teeth, which were thus moved about one-eighth of an inch. The teeth thus brought forward were kept in their places by soldering upon the plate, (which had now to be re-swaged to fit the present state of the mouth,) collars or clasps. After having secured the canines in their new position, the next or first bicuspids were treated in the same way, so as to bring them in contact with the cuspidati. The first collar or clasp was now removed and a similar one placed behind the bicuspid, and so on until the entire arch was sufficiently spread in this direction. Notwithstanding I had now succeeded in correcting two important features in this deformity—that of restoring the arch of the upper jaw to its proper form and that of retracting the skin, still a third difficulty remained which bid fair to be more formidable than either of the others, I allude to the greatly contracted state of the upper lip and the depression of the nose.—

---

*See Am. Jour. Dental Science, vol. 5, No. 2, page 147.

Had this been properly attended to in infancy, in connection with the operation for hair lip, it would have been comparatively an easy task. But at the present age of the patient, I had serious doubts about complete success. I made no attempt at restoring this portion of the deformity till the operation for correcting this irregularity of the teeth and jaws was fully completed, and the mouth was in all respects prepared to receive a plate upon which were to be attached teeth to supply the missing ones.

I at first entertained the hope that this could be accomplished by carrying the plate very high up under the lip, and by giving it proper thickness to overcome this contraction by continued pressure, but in this I was disappointed, the irritation being too great to be borne by the patient. I was under the necessity of resorting to the scalpel, and to make a pretty free separation of these contracted parts (*septum nasi*) from the jaw to which they were firmly attached. This done, I had no difficulty in preparing a plate for teeth and restorer passing much farther upwards, which gave proper form to the lip, and relieved the tension upon the point of the nose. I used for the plate thin platina, and to secure a thin and unirritating surface in contact with the parts which had been cut, I returned downwards about a line in breadth, so as to secure a smooth rim, filling up the interspace and below to give it the desired shape with "Allen's body" or continuous gum. Upon introducing the piece, the tension upon it caused by the excessive pressure of the contracted lip a considerable inflammation. However it kindly healed in the course of a few days. The parts assumed in all respects a healthy condition, with each feature of a most unsightly deformity more perfectly corrected than I at first dared to hope.

Contraction of the Arch of Superior Maxillary.

FIG. 1.

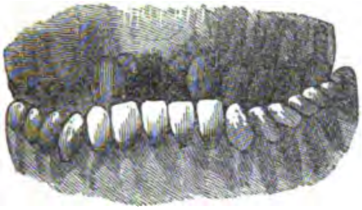


FIG. 1. The appearance of the mouth and articulation of the teeth.

FIG. 2.

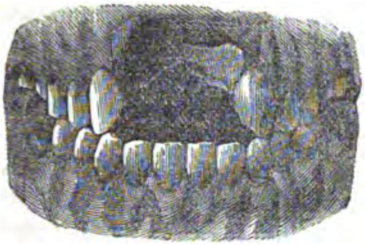


FIG. 2. After the operation of expanding the jaws and regulating the teeth was completed with artificial plate and teeth.

FIG. 4.

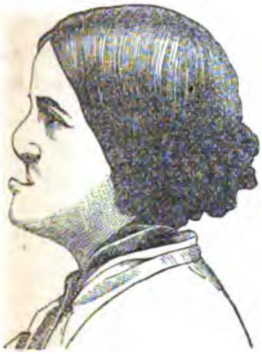


FIG. 5.

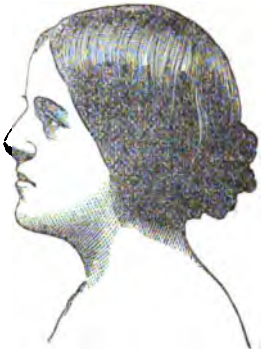


FIG. 4. The appearance of the face before the operation was commenced.

FIG. 5. At the time the patient was dismissed.

ON THE DEVELOPMENT AND STRUCTURE OF THE TEETH OF MAMMIFERA.

BY DR. ADOLPH HANNOVER, OF COPENHAGEN.

(TRANSLATED BY T. WHARTON JONES, F.R.S.)

The following is a translation in abstract of Dr. Hannover's admirable monograph, "Ueber die Entwickelung und den Bau des Säugethierzahns," recently published in the "Nova Acta Acad. Caes. Leopold. Nat. Cur.," Vol. xxv. Part 2 :

In the mammifera, the dental sac contains four distinct elementary structures.

1. *The Dentine Germ* —This is a soft body at the bottom of the sac, which early presents the permanent form of the crown of the tooth, and is, by a process which Dr. Hannover names *dentification*, converted into the dentine, or ivory, of the tooth.

2. The *Enamel Germ.*—This immediately invests the dentine germ, and consists of cells vertically disposed, which are at first soft, but afterwards converted, by the deposition of earthy matter into the hard columns composing the enamel.

3. *The Cement Germ.*—This, the outermost of all the structures of the dental sac, is, by a process of true ossification, formed into the cement or bony substance of the teeth.

4 *Membrana Intermedia.*—The cement germ is not in immediate connection with either the enamel or the dental, but is separated from them by a particular membrane, which, at the crown of the tooth, has attached to its inner surface the enamel cells, and consequently is interposed between the cement germ and the enamel; whilst at the root of the tooth, where the enamel germ ceases, the membrane in question lies between the cement germ and the dentine germ.—This membrane, which Dr. Hannover names *membrana intermedia*, and to which he considers due attention has not been hitherto directed, is found, in the fully-developed tooth, metamorphosed into the *stratum intermedium*.

PART I.—HISTOLOGICAL HISTORY OF THE DEVELOPMENT OF THE TEETH OF MAMMIFERA

1. *Dentine Germ.*

In the new-born infant the dentine germ of the permanent incisor tooth consists of a homogeneous, reddish-yellow, semi-transparent substance. The edge of the dentine germ being older than the base, the earliest conditions are best seen the nearer the base the germ is examined.

At the base the germ consists of very small cells—*dentine cells*—deposited without any definite order in a translucent, intercellular substance. This being a small quantity, the cells lie closely pressed together, and are thus rendered partly angular. The nucleus, which is very little smaller than the cell itself, is rather dark, coarsely granular, round, oval or angular.

Whilst the cells of the dentine gern are in this very early stage towards the base, their development is already much further advanced in the free dark border of the same germ.

The first change perceptible in the cells of the free border consists in their elongation and arrangement in rows, one behind the other. This change is not perceptible in the cell membrane, on account of its transparency, but is very distinct in the darker nucleus. The nuclei thus become more slender, and four to five times longer than before, lie, on the whole, parallel with each other, and are disposed perpendicularly at the border of the germ. From the ends of the elongated nuclei there are fine prolongations, which appear light or dark according to the change in the illumination. Dr. Hannover has not been able to determine whether these be prolongations of the nucleus, or cell itself, but from analogy thinks the latter more likely. The prolongation of the posterior end of one cell coalesces with the anterior prolongation of another; and in this coalescence of the prolongations and processes, the *tubes* of the *dentine*, together with their ramifications, originate.

When the nucleus is at last fully drawn out in its length, the distinction between it and its prolongations no longer exists. The nucleus forms the lumen and the contents of the permanent dentine tube, the walls of which, on the contrary, are formed of the cell membrane and cell contents.

When the tubes have been thus formed, they become hardened by the deposition of earthy matter. This process, which Dr. Hannover names *dentification*, takes place very soon after the first appearance of the germ, and commences in the oldest part or the free border of the germ, so that the cell series in the border may be found dentified, whilst the back-lying layer is still in a soft state.

Dentification, or the deposit of earthy matter takes place first around the lumen of the dentine tubes, later in their walls, and in the intercellular substance.

It is to be noted that the lumen of the tube is very often looked upon as the tube itself, whilst the walls of the tube have been altogether overlooked, or mistaken for interspaces between the tubes.

The contents of the tubes are, in the fresh state, limpid like water, fluid, and of the same nature as in the still soft prolongations of the cells; yet, in all probability, impregnated with earthy salts quite as early as the walls of the tubes.

Contemporaneously with the dentification of the tubes proceeds the solidification of the transparent intercellular substance. It appears in this state structureless and clear, but somewhat darker than the walls of the dentine tubes. In the hardened state it merits the name of intercellular substance.

From the preceding demonstration, it is seen that the dentine tubes have their origin immediately in the coalescence of the dentine cells; and that there is nothing like a secretion of dentine by the germ. This being the case, the ground for the admission of a particular *membrana præ-formativa* is taken away.

2. *Cement Germ.*

Although the enamel attains its full development earlier than the cement, Hannover has found it more convenient to give the description of the cement germ before that of the enamel germ.

The nature of the cement germ has been mistaken by many of the most recent observers, because they have incorrectly attributed to it a part in the formation of the enamel. The cement germ has nothing to do with the formation of the enamel, and is, indeed, wholly separated from it by a particular membrane—that called by Hannover *membrana intermedia*,

The formation of the cement or bony part of the tooth takes place through the cement germ, in a manner peculiar and hitherto unknown.

Whilst the dentine tubes are immediately developed from the dentine cells, the cement, on the contrary, attains its permanent form only by a three-fold process. In the first stage of development, the primordial cells, of which the cement germ consists, change completely into fibres ; in the second stage, true cartilage cells form in the now fibrous primordial germ ; the third stage is that of ossification.

For the investigation of the earliest condition of the cement germ Hannover has found the cement germ of the permanet incisor of the new-born infant likewise the best adapted. The cement germ surrounds, like a cap, the dentine germ on all sides, with the exception of the base. From the dentine germ, however, the cement germ is everywhere separated—first, by the *membrane intermedia*, and second, by the enamel cells of the crown.

In the earliest period the cement germ is a limpid or slightly reddish fluid. The only solid bodies which occur in this substance are the primordial cells. After the cement germ has attained a slightly gelatinous consistence, the cell-membrane of the primordial cells shoot out on all sides numerous prolongations, so that the cells become branched or stellate. From the prolongations are given off finer branches. At last the branches of several cells meet each other and inosculate.

The cell membrane, which, as well as the ramifications, is very pale and delicate, is expended in the formation of the increasing number of prolongations ; so that the appearance is presented as if the latter proceeded from the nuclei. The nuclei, however, during the changes of the cell, remain unaltered. After the still isolated primordial cells have become stellate, the previously gelatinous germ begins to become more consistent, and a fine, transparent, and structureless intercellular substance is seen, in which the stellate cells are deposited.

The primordial germ now approaches its last stage ; the prolongations of the cell membrane have become so long and fine as to be actual fibres. The primordial germ forms a semi-transparent homogeneous, viscid tissue, in which there are bundles of fibres, very fine and smooth. The fibres run parallel, seldom irregularly or intercrossing, and do not ramify. On the individual fibres are long, fine fusiform nuclei, evidently the remains of those nuclei found in the primordial cells, which were at first round and afterwards stellate and ramified.

Hereupon closes the primordial stage of the cement germ. From being a fluid, limpid mass, the germ acquires a gelatinous consistence and color, and is at last changed into a fibrous cartilage; for in the fibrous substance at last formed in the primordial germ there appear cartilage cells. Hannover has observed distinct cartilage cells in the back teeth of new-born infants, or infants some months old; but in human teeth the further development of the cement germ, at least around the crown of the tooth, is arrested, and the fibro-cartilage is not converted into true cartilage and bone, as in animals For the study, therefore, of the second stage, which comprises the appearance of cartilage cells, Dr. Hannover takes the tooth of the new-born foal.

The cartilage cells appear isolated in the fibrous primordial mass, and without connection with it. They are of different sizes, round or slightly oval, have coarsely-granulous contents—or rather coarsely, granular nucleus—but no distinct nucleolus. As they increase in number, which they do first towards the *membrane intermedia*, the fibrous structure ef the substance disappears, and it becomes more uniform.

Endogenous development, the presence of two cells in one mother-cell, or of several nuclei in the same cell, Dr. Hannover has not observed. Dr. Hannover remarks, in a note, that what are usually called cartilage cells he does not consider cells, but only nuclei. Complete cartilage cells, he says, occur rarely; most frequently they are met with in enchondrona. Nevertheless, to avoid confusion Dr. Hannover continues to use the name *cartilaginous cells*.

The transition of fibro-cartilage into *bone*, in the third stage of development of the cement, commences soon after the appearance of the cartilage cells.

The ossification of the cement begins with an earthy deposition in the intercellular substance. This takes place partly in the form of a closely-granular crumbly mass, partly in the form of shorter or longer fine fragments, arranged in definite directions. The fragments are, however, perhaps only fragments of branches of bone—corpuscles which lie in another place, and have been cut through in making the section for examination.

As the earthy deposition increases, the cartilage cells (nuclei) are passed together, and become small and angular. Pointed prolongations shoot from them, being the first beginnings of the future branches of the bone-corpuscles.

The bone-corpuscle is not a cavity in which can be distinguished a surrounding membrane and proper contents. It is, on the contrary, a solid body arising from the conversion or metamorphosis of the gelatinous fine substance of the cartilage cell.

The Haversian canals make their appearance in the primordial germ as soon as the formation of the cartilage cells begins, or, perhaps, somewhat later.

The walls of the Haversian canals ossify at the same time with the ossification of the rest of the intercellular substance.

Enamel Germ.

The investigation of the development of the enamel is also most conveniently made on the teeth of new-born infants.

When the dental sac is open under water, without tearing the *membrana intermedia*, the cement germ escapes like a fine cloud in the water; but if the *membrana intermedia* is at the same time opened, the cloud is mixed with the enamel cells, or earliest elements of the enamel. These cells are usually united into a sort of membrane.

The enamel germ consists throughout of cells. There is no inter-cellular substance. In its earliest stage, *e. g.*, in the first permanent back tooth of the new-born infant, the cells are found still isolated.

The isolated enamel cells are usually round, seldom oval—somewhat smaller than the primordial cells of the cement germ, but much more coarsely granular, and darker. They also appear softer. The nucleus is small, round, oval or angular; has a sharp linear contour, and a peculiar glance. One or two punctiforn nucleoli are commonly visible. Twe cells, enclosed in a mother cell, are sometimes seen; and the occurrence of two nuclei in the same cell is likewise not uncommon.

The first change which the enamel cells undergo, after being at first isolated and round, consists in their becoming closely aggregated together, and assuming an angular form, so that, in their membraniform union, they present almost the appearance of a tessellated epithelium. The cells lie pressed together, but each individual cell maintains its independence, without coalescing with its neighbors; so that their boundary contour-line is always visible.

The membraniform expansion of the enamel cells is at first very soft and thin, but afterwards becomes firmer, so that it may be separated under water in small flakes from the *membrana intermedia*, or from the dentine germ.

The cells, on account of the complete want of intercellular substance, being continually pressed against each other, their angular form is changed into that of longish rectangular, the ends of which are abruptly cut off or rounded. One end is thicker than the other, or one end is pointed—a disposition which becomes more marked in a subsequent stage. In the middle of the rectangulum is the nucleus.

These elongated rectangular cells are, for the most part, disposed vertically between the *membrana intermedia* and the dentine germ. They adhere more firmly to the *membrane intermedia ;* and to the end corresponding to this membrane their nucleus is nearer than to the end next the dentine germ.

The cells are continually growing. The end fixed to the dentine germ increases in length, whilst the nucleus end always remains nearest the *membrana intermedia.*

Even at an early period of the development, the enamel cells are, at the end nearest the dentine germ, pointed, or even drawn out into a filament ; or, as the late Mr. Nasmyth described it, "furnished at one extremity with a delicate prolongation."

The origin of this filament is unknown to Dr. Hannover. It usually appears as a continuation of the cell, and the longer the filament the more slender the cell itself ; but, on the other hand, it is to be observed that the contour of the filament is sharp, and does not appear to be formed of the cell-membrane, the contour of which is soft-looking.

After the cells have obtained a certain length by continued growth of the end next the dentine germ, their development passes into the last stage, that of calcification. The deposition of earthy matter into the cells takes place first in the ends next the dentine, and then spreads in the direction towards the *membrana intermedia.* Even when one part of the cell is calcified, the remaining part is still soft, and always recognisable by the nucleus at the end next the *membrana intermedia.* The nucleated end is the last to become calcified.

As there is every reason to admit that the same individual enamel cells extend from the dentine germ to the *membrana intermedia*, it follows that the enamel cells are the longest cells in the human body, their length corresponding to the thickness of the completely-formed enamel.

As the enamel cells become calcified, they assume the form of six-sided columns, and most probably they assume this form even some time before calcification.

It has been above stated that the enamel cells are disposed vertically, but this is not exactly the case always, for there are parts of the enamel in which the cells form a more or less sharp angle with the *membrana intermedia* and the dentine germ. Moreover, the columns are not always straight, but very often undulating, and sometimes they even cross each other.

4. *Membrana Intermedia.*

This is a fine thin membrane, which must not be confounded with the membraniform expansion of the enamel cells, and which lies on the inside of the cement germ, between this and the cement cells.

It consists of a homogeneous substance, in which numerous small round or oval, angular or pointed nuclei, without distinct nucleoli, are embedded. The boundary towards the cement germ is sharp and linear, and the cells of the cement germ lie compressed on it. The boundary towards the enamel cells which sit on the opposite surface, is likewise sharp. The enamel cells admit of being easily detached from the inner surface of the *membrana intermedia;* whilst, on the contrary, it is not without difficulty that the *membrana intermedia* can be separated from the cement germ.

The *membrana intermedia* does not belong exclusively to the crown or the enamel, but is continued on the root where it separates the dentine from the cement; thus lying, as in the crown, on the inside of the cement. Dr. Hannover has, however, not been able to isolate it here, because immediately on the formation of the outermost stratum of dentine, it forms an adhesion with it, and can only be recognised in the fully-formed tooth as the *stratum intermedium.*

GENERAL REMARKS ON THE ORDER OF SUCCESSION IN THE DEVELOPMENT OF THE DENTAL ELEMENTS IN THE MAMMIFERA.

According to the view that the development of the teeth begins with the formation of papillæ at the bottom of primitive grooves in the jaws—grooves at first open, but which afterwards close and become subdivided by transverse partitions—according to this view, the papilla is the future dentine germ; the cement germ is formed in the follicular stage of development, after the previously open papilla-cavity has closed, by deposition of a granular substance. The formation of the cement germ takes place, therefore, subsequently to that of the dentine germ.

If we view the enamel cells as a continuation of the *epithelium* of the mucous membrane of the mouth, and of the dental groove, the foundation of the enamel must exist before the formation of the cement germ; and this would argue that the formation of the enamel is independent of the cement germ, or the previously so-called enamel organ.

Although, however, the order of succession in the development of these three dental substances appears to be as stated, it is not a uniformly progressive one; and there are periods when the development of the one substance appears to anticipate that of the other.

The dentine germ is found at first as a solid body at the bottom of the dental groove and of the dental sac. The point, or free border, appears earliest, is composed of cells at first isolated, but which subsequently elongate, meet each other, and coalesce into long rows; lastly, the dentification of the tubes commences also at the point, and this takes place before any one of the other substances has attained its permanent form.

The resemblance of the enamel cells to a tessellated epithelium is unmistakable; and in so far as the epithelium of the dental groove exists before the papilla, it may be asserted that the enamel is the first formed substance of the tooth. Nevertheless, the cells in question first acquire the character of enamel cells only after the papilla has sprung forth. It is here also the point of the papilla on which the enamel cells, after having acquired the elongated form, first arrange themselves beside each other, and become united into a fine membrane, the peripheral part of which is always found in a less advanced stage. Likewise the calcification of the individual cells commences first on the point or the free border of the dentine germ. The end towards the dentine germ calcifies first, and is supported only on the dentified dentine germ; whilst the root end of the cell, which contains the nucleus, is in close union with the *membrana intermedia.* With the calcification of this end the formation of the whole enamel is completed.

Dr. Hannover has not yet satisfactorily traced the first formation of the *membrane intermedia.*

The cement germ arises from the primordial germ, which is at first fluid, subsequently gelatinous, then converted into fibro-cartilage, and lastly ossified. In its development it is always behind the other dental substances. The ossification commences first in the part lying next the *membrane intermedia,* but the ossification can only commence at the period when the enamel cells are completely calcified, and the enamel has acquired its permanent thickness. The slower and later growth of the cement germ is easily observed.

In man, the crowns of the teeth are covered by a cement germ, but it never ossifies there. In ruminants—the elephant, &c.—the crowns are covered with a strong development of cement, both around the circumference generally and down between the pointed parts. The difference is owing to this, that in man the crown, by its growth, pushes through the cement germ in cutting the gum, and a stop is put to the further development of cement. It is thus also that we find in the ruminants and horse, in teeth which have just cut the gum, large openings in the middle of the cement, which are owing to the arrested ossification of the cement germ, occasioned by the protrusion of the crown through the gum.

When the formation of the enamel is completed and the root commences to form, the dentine germ is very closely surrounded by a fine membrane, which consists of the condensed remains of the *membrana intermedia* and cement germ, and contains small nuclei and fibres closely pressed together, the latter belonging to the cement germ. Cartilage corpuscles Dr. Hannover has not observed in it—at least, not in the upper part of the root of the human incisor.

All the dental substances increase in hardness during their growth, which is probably occasioned partly by the loss in water, partly by the stronger pressing together of the elementary parts.

PART II.—HISTOLOGY OF THE TEETH OF THE MAMMIFERA.

1. *Dentine.*

The dentine forms the largest portion of the tooth, is non-vascular, white, semi-transparent, and immediate in hardness between the cement and the enamel. It is composed of thick-walled tubes, imbedded in an intertubular substance.

The walls of the dentine tubes are very thick in proportion to their lumen ; they cannot, however, always be distinguished, because they usually coalesce with the intertubular substance. The thickness varies in different animals : in the horse they are very thick ; thinner in oxen and in man. The greater apparent fineness of the tubes towards the periphery of the tooth, depends on the narrowness of the lumen, not on a greater thinness of the walls of the tubes themselves.

The contents of the tubes are, in the fresh state, composed of a transparent fluid, with calcareous matter in solution ; in dry teeth—such as are commonly made use of for making sections—the tubes appear empty, the lumen is seen, even in fine tubes, bounded on either side by a dark line. The lumen itself is clear, and the clearness increases on the addition of a fluid, without, however, being accompanied by a disengagement of air globules. The same tube may be at one place empty, at another filled with earthy particles.

A circulation of nutritive fluid in the perfectly-formed dental tubes, such as has been supposed by Krukenberg, cannot, Dr. Hannover says, be admitted.

The peripheral end of the dentine tubes calls for some detailed consideration. According to Dr. Hannover's observations, the outermost ends of the trunk and branches are lost in the surrounding intertubular substance, their walls coalescing with it. Loops, or anastomoses, with neighboring or more distant trunks or branches, are only exceptionally formed. Many branches, however, sink into small calcareous cavities.

The admission of an anastomosis between tubes is often founded on the appearances presented in those cases in which the original globular basis of the dentine has remained still visible, the interspaces and passages between the globules, in such a case, being mistaken for branches of dental tubes.

Contrary to a common opinion, Dr. Hannover insists that there is nowhere any connection between the dentine tubes and the ramifications of the bone corpuscles of the cement, the dentine and cement being separated from each other by the *stratum intermedium.*

Dr. Hannover can as little admit a communication of dentine tubes with the enamel. The idea of transition of dentine tubes into tubes between the enamel fibres, is completely opposed by the development of these two substances. The appearances which have been supposed to indicate a transition, Dr. Hannover thinks must have been in some cases owing to the sections having been oblique, so that a part of the dentine overlapped the edge of the enamel; in other cases, the passages or strial into which the dentine tubes appeared to pass have been merely an optical expression of the regular form of the enamel columns.

Earthy deposits, sometimes met with in the substance of the dentine, having some resemblance to bone corpuscles, have been mistaken for such, and the erroneous notion of a transition of dentine tubes into bone corpuscles, founded thereon.

The intertubular substance in which the dentine tubes are embedded, is, as is known, clear, homogeneous, and structureless.

The substance in which the lumina of the dentine tubes are embedded, also appears in a form which recalls to mind the development of the dentine tubes from round cells, and most probably does depend on this original form.

This is a point not yet completely cleared up; Dr. Hannover, therefore expresses himself cautiously in regard to it, and speaks of the substance only as it has appeared to him in many cases between the lumina and the dentine tubes. In man, Dr. Hannover has often observed it, but not nearly so distinctly as in the ox, the horse, and most cetaceans. In the ox, for example, Dr. Hannover, found near the enamel, a globular structure in which the individual globules were separated by very clear psssages from each other. By the anastomosis of the passages, there was produced a retiform appearance, which has erroneously given origin to the admission of a retiform anastomosis between the ramifications of the dentine tubes : the proper ramifications ran past these pasages without forming any junction with them.

The globular structure consisted of round or oval bodies, from the size of a human blood-corpuscle to that of a frog's; sometimes, when the bodies were pressed against each other, they were angular. Their substance was somewhat more granular and less transparent than the rest of the dentine. On and between the globules were shapeless earthy masses, similar to those above noticed. They lay partly close to the boundary of the enamel, partly at some distance from it, and had a deceptive resemblance to bone corpuscles, for which they have been mistaken by those observers who admit a transition of the ramifications of the dentine tubes into bone corpuscles.

The innermost part of the tooth, or that part of the germ which is latest of dentifying, presents in most animals indications of imperfect development. Very generally it consists of an irregular aggregation, of imperfectly formed dentine tubes. This is the case in almost all teeth, and the difference from the rest of the dentine is perceptible even to the naked eye, on account of the greater transparency of the parts. The lumina of the tubes are seen in a structureless, clear mass, frequently in branches irregularly winding or suddenly interrupted, in fragments of different length and form, diverging in their direction, however, usually from within outwards. Their thickness does not appear, on the whole, changed; the branches, on the contrary, which are sometimes absent, are in other cases very numerous, and finer than elsewhere. Dr. Hannover has found it in man, the dog, the bear, sow, horse, &c., in which the fragments frequently form large loops. Often the inner transparent part, in which these irregular tubes occur, is sharply defined from the rest of the dentine, and forms a centre of greater or less extent, outside which the regularly-arranged dentine tubes begin; for example, in the sow, horse, ox, &c. In the otherwise uniform clear mass in the axis of the tooth, the globular form of the intertubular substance may also, in rarer cases, be recognised, as in the dugong. In other instances, there is a total absence of dentine tubes in the innermost part of the dentine, and the dentified germ consists in the middle of only a uniform clear mass.—

(*To be continued in next number.*)—Eds.

EDITORIALS AND CUTTINGS.

We understand that a report is being circulated that the DENTAL JOURNAL is on the point of publishing its own obituary notice. We assure our *alarmed* friends, that we hope to outlive the most of them, and that at present we are in an excessively flourishing, not to say lively, condition. In the present number it will be observed that we have changed our type to a smaller size, and thus not only improved the appearance of the JOURNAL, but also have presented an increase of matter equal to one-half our former size. Having thus altered our appearance, we have considered it advisable to commence the new year under the title of VOL. II. NO. I.

Of course our subscribers will be supplied with the January and April numbers.

And while talking about ourselves, we would respectfully ask of the profession to assist us in the carrying forth of our undertaking. To the Dentists of New York, we would especially appeal, begging them to use their influence and their personal efforts to support, what we intend to make an independent, straightforward, intelligent Journal. Surely, New York is rich enough in the profession, to support one local Journal; and we do hope that this appeal will not have been made in vain, but that every New York Dentist will not only subscribe himself, but will induce his friends to subscribe. *Subscribe early—Pay promptly, and aid cheeringly.*—EDS.

The death of Dr. Elisha Townsend, of Philadelphia, will be felt by the whole profession, as a severe and irreparable loss. An intelligent and scientific man; an honorable and kind-hearted gentleman; he had made himself many friends, both in this country and abroad. The obituary notices which have appeared in various parts of the country, teem with expressions of regard and admiration of his many good qualities. At a meeting of the Faculty of the Penn. College of Dental Surgery, held Oct. 19th, 1858, resolutions were passed honorable to his memory, and creditable to those by whom they were offered. May he sleep in peace.—Eds.

Dr. John Snow, an eminent Physician, well known for his researches concerning chloroform and other anæsthetics, and the discoverer of Amyline, died of Appolexy on the 16th of June, last.

We are sorry to learn from Dr. B. W. Franklin, that in the late disastrous conflagration of the New York Crystal Palace, he unfortunately lost seventeen cases of teeth, of exquisite workmanship; being manufactured in the highest style of art, to exhibit all the late improvements.

We would draw the attention of the profession to the articles in this number by Drs. Franklin and Crowell, as being deserving of special notice.

WELDING PLATINA SCRAPS.

It is not generally known in the profession, that Platina scraps can be welded to answer all practical purposes for dental use. Dr. Franklin lately exhibited to us the operation of welding small scraps, and it is so simple that we can only wonder that it is not usually done. Much material has, doubtless, been lost to manufacturers for want of the little ingenuity required. In welding Platina it is necessary that the scraps should be clean, free from all alloy or impurity; these should be gathered together, and inclosed in a platina pan turned up to hold them, and to which they are to be welded. They are then to be exposed to a white heat in the muffle of a common tooth furnace, and as fast as heated should be placed upon an anvil and struck sharply a few blows, and the operation repeated, doubling and welding until they become a solid mass. Where it is desirable to weld small quantities of an ounce or less, it can be done in the flame of a common self-acting blow-pipe, by placing the Platina between the flame and a piece of charcoal, the latter serving as a reflector to intensify the heat. We would certainly advise all dentists to try this experiment, and thus economize their Platina.

ANÆSTHESIA BY COMPRESSION.

M. Jacowski, a practitioner of Paris, has revived the practice of compression as a means of preventing pain; and in several instances an entirely painless extraction of teeth has been effected. The compressor he employs consists of two pads, connected by a steel spring, very much like a hernial truss. The spring is passed behind the head, and the pads are applied either within the meatus anditorius on each side, or behind the ranii of the jaw in front of the ears.—*Med. Times and Gazette, from Medical News and Library.*

NEW ANÆSTHETIC AGENT—ACETONE

We translate from the last number of Brown-Séquard's *Journal of Physiology* a brief account of a new anæsthetic agent, discovered by M. Béchamp. The experiments which have been made appear to show that it is a discovery of great importance; and these observations, if confirmed, will place the newly-discovered agent in advance of any anæsthetic now known. The following is the account from the French journal: M. Béchamp communicated to the Section some experiments which he had made in his laboratory, in the presence of several pupils, upon a new anæsthetic agent—Acétone. This substance is much less disagreeable to breathe than amylene, its action is more rapid but less persistent. It acts upon rabbits after thirty seconds; and the insensibility is such that one can mutilate the animal in any manner without pain. It is worthy of remark, that the prolonged inhalation of this agent had no fatal action on the rabbits.

We have on our table the "*Dental Register of the West,*" Dec. 1858—"*Dental Reporter,*" Nov. 1858—"*Dental News Letter,*" January, 1859—"*American Dental Review,*" Nov. 1858—and a new dental periodical, the Cincinnati "*Dental Lamp,*" which we hope may shine luminously through many volumes.—Eds.

We would announce to the profession, that the proprietor of this Journal, having relinquished his practice, is now upon a tour of observation among our professional friends of the South and West, where his hospitable reception has charmed him to a long stay. His hairbreadth 'scapes by flood and *fire* (especially fire), might fill a volume; but as the only volume he desires to fill at present is the subscription-book, we presame that this exciting narrative will remain unwritten. On his return he will probably extend his visit over seas, and *see* what is being done in those distant regions.

We give the following as the only specimen of true Odontalogical Poesie we have seen since Burns:

"Ye that have poor, aching teeth,
Fretted, worried 'most to death,
Come and try the Doctor's skill—
He can either draw or fill."

The above I found upon the slate at my door, and it tells its own story. It draws a streng picture of the many who are suffering, and throws in a bright spark of consolation, that relief may be had in some shape.—Dental.

MISS. V. A. OF DENTAL SURGEONS.

Subjects of Discussion at the next Annual Meeting of the Mississippi Valley Association of Dental Surgeons, to take place February 23d, 1859:

1. Treatment of inflamed or sensitive dentines.
2. Mechanical dentistry.
3. Treatment of dental periostitis, and alveolar abscesses.
4. To what extent are atmospheric plates applicable to partial sets of teeth.

5. Anæsthetic agents, use of, in the extraction of teeth.
6. Irregularities of teeth, how corrected.
7. Filling teeth.
8. Best means to secure a good denture.

J. P. Ulrey.
H. A. Smith.
C. N. Woodward.

The Ohio Dental College Association meets on the third Monday of February, 1859.

The Fourth Annual Meeting of the Michigan Dental Association takes place at Detroit, January 11th.

We have a Report of the late Meeting at Indianapolis on the way to us, but it will, we fear, be too late for this number.—Eds.

REPORT OF THE EXECUTIVE COMMITTEE.

The Executive Committee appointed at the last "American Dental Convention" would respectfully report the following as the order of business for the next Convention, which is to meet at Niagara Falls on the first Tuesday in August, 1859, at 10 o'clock, A. M.:

1. Reading and Correcting Report of last Meeting.
2. Treasurer's Report.
3. Reports of Committees.
4. Election of Officers.
5. The Retiring President's Address.
6. Installation of Officers.
7. Appointing Committees.

DISCUSSIONS.

1. When and under what circumstances should teeth be extracted, to secure a correct development of the permanent teeth.
2. Mechanical appliances, and forces to correct irregularities of the teeth.
3. Under what circumstances, and in what manner, should teeth

be filed, to remove superficial decay or preparatory to filling, to leave them the most secure from future decay.

4. Filling Teeth.
5. Mechanical Dentistry.
6. Treatment of Diseases of the Antrum.
7. Professional Intercourse.
8. Miscellaneous.

The reading of original Essays on the various topics under discussion, will be first in order under their appropriate heads.

The committee wonld respectfully suggest to all who expect to be present the benefit as well as the *propriety* of preparing notes (to be read before the convention) of their experience and observation on the various subjects named for discussion. Let the notes be carefully prepared—*short and to the point.*—In this way a large amount of valuable information may be on record for the benefit of the profession at large.

W. W. Allport.
M. E. Wright.
W. D. Stone.
Frank Fuller.
A. M. Leslie.

It is strange that with the constantly recurring cases of mortality from the effects of Chloroform as an anæsthetic agent, dentists do not learn wisdom and abandon it altogether, in favor of some of the later and more harmless discoveries; or else use it with more caution. We give below two new cases of death from this cause.—Eds.

Death From Chloroform.—A young woman died at Epsom, under chloroform, at the house of Mr. Keeling, a dentist, who practises extensively in this and the neighboring counties. The facts of the case are as follows, and strictly in accordance with the evidence given at the inquest:—The deceased, a remarkably tall, fine young woman of two-and-twenty, lived as a servant with Dr. Barrett, a physician residing in the adjoining parish of Ewell. She held a very high place in the esteem both of the doctor and of his lady, being more of a companion to the latter than a dependent. For some time past the deceased had suffered from toothache, and having witnessed the successful use of chloroform, administered by Mr. Keeling, in the case of her mistress and in that of two sons of Dr. Barrett, children of ten and twelve years of age, she wished to avail herself of the same means. She consulted Dr. Barrett, and from that gentleman's personal knowledge of the state of uninterrupted health enjoyed by the deceased for the last seven years, he, without the slightest hesitation or misgiving, wrote an authority for the extraction of the offending tooth with the aid of chloroform, not suspecting the slightest risk from its use. Deceased took this paper, and accompanied by her mistress, walked to Epsom to the establishment of Mr. Keeling, who proceeded to operate as requested. It appears from the evidence at the inquest held on Saturday, that Mr. Keeling desired merely to deaden the nervous sensibility of his patient—not to produce unconsciousness. The quantity of chloroform administered was accordingly very small, but its effects were most unexpected and distressing. She inhaled the chloroform from the napkin she held in her hand for a brief time, and on being asked if she was ready, replied "not yet," again sniffed at the napkin, and then said "now." The tooth was almost instantaneously extracted, a slight movement of the jaw followed, when deceased appeared to faint, and, notwithstanding the use of powerful restoratives, promptly and continually aplied, she never rallied. Messengers were despatched all over the town for medical assistance, and to Dr. Barrett himself. This gentleman was fortunately going to Epsom, and was met by the messenger, who informed him of the danger of his servant. He hastened onward, and on arriving at Mr. Keeling's found life utterly extinct. Other assistance speedily arrived, but, of course, it was useless. The distress of the misrtess of the deceased, who witnessed this awfully sudden departure of one whom she greatly valued, was as poignant as it was unavailing. Mr. Keeling's nerve never once forsook him throughout this most trying scene, and the whole of the evidence went to show that no blame could or should attach either to the mode of administration of the chloroform or the promptness and fitness of the means taken to combat its distressing results, although, unhappily, unavailing. The jury fonnd a verdict of "Accidental death," acquitted Mr. Keeling of the slightest blame, but desired to recommend the cautious use of chloroform in trifling operations in future.

Another Death from Chloroform.—An inquest was held at the Red Lion, Heathcote, near Towchester, on William Rush, aged eleven, who had received an injury of the foot some weeks ago, which has resulted in a considerable shortening of the great toe and enlargement of the corresponding joint. Mr. Watkins was then requested to examine the foot, but in consequence of the boy's screams and resistance, and the acute pain caused by the slightest manipulation, the examination was not satisfactory. As it was absolutely necessary to decide whether the case was one of dislocation or diseased joint, Mr. Watkins proposed another examination under the influence of chloroform, to which no objection was offered. Two or three attempts failed, but finally the boy consented to inhale chloroform. After some six or eight inspirations the desired condition appeared to be produced; the pulse had not indicated the slightest disturbance of the circulation. Mr. Watkins giving the handkerchief into the mother's hand, was again taking the foot, when the patient made two short stentorian inspirations. The chloroform was at once discontinued, but the pulse fell at once, and after a few hurried and feeble beats ceased to be perceptible at the wrist; every possible means of recovery was resorted to, but the boy died. The jury, after a short consultation, found "That the deceased came by his death from the effects of chloroform administered by Mr. E. F. Watkins, for the purpose of producing insensibility to pain." Mr. Watkins said he was under the impression that the use of a cotton handkerchief on this occasion, of much stouter texture than the silk, cambric, or lawn handkerchiefs which he had most frequently used, might possibly have prevented the due admixture of atmospheric air with the vapor, and thus the chloroform might have entered the air-passages in a more concentrated form than that which was considered perfectly safe, viz,, 5 per cent.; and this opinion derives some weight from the report of the fetal case at Epsom, in which the chloroform is said to have been put on a " napkin."—*News of the World.*

THE

New-York

"We request Subscribers who have not paid for the first year, or who have received the numbers of the *New-York Dental Journal*, to remit at once, or to return the numbers. Non-payers will truck from our list."

EDITORS NEW-YORK DENTAL JOURNAL.

GENTLEMEN—At the commencement of the last session, entered for the first time upon the discharge of my duties in this institution, I felt as a stranger uncertain of the disposition of the class towards me, and very diffident of my ability to meet their expectations. Their uniform courtesy, however, soon dispelled all feeling of distrust. From the experience of a winter I have learned to rely upon the generous nature of the student, and I rejoice to say that I meet the present class with entire confidence of mutual good will.

The pleasure I feel in greeting you is, however, mingled with emotions of sorrow at the absence of one who on the occasion alluded to sat within our midst; one who had been instrumental in a great degree in establishing this school, and by his reputaion as an operator, and his ability as a teacher, added much to its character and usefulness. I allude to our lamented friend and eminent colleague Professor Townsend; who, after a long-continued illness, that was borne with a mild and cheerful fortitude, agreeable to the placid and even tenor of his whole life, was at last released from his bed of suffering by death, on Wednesday, October 13th, 1858.

In obedience to the dictates of my feelings, I think it proper to mark this occasion by some attempt to give a slight sketch of his life in connection with the Dental profession, and to record my estimate of his abilities as a practitioner and teacher.

He was born in the year 1804, in the City of Philadelphia. His father, still living, a hale and hearty octogenerian,* in the full enjoyment of all his faculties, is a highly respectable member of the religious society of friends, and was for a great number of years engaged in watchmaking in this city. After receiving an excellent English education, Elisha Townsend entered the establishment of his father, and became quite proficient in all that appertained to the department. The nicety of adaptation required in the business rendered it, at that time, an admirable school for training one to perform the delicate operations demanded in the mouth; and there is but little doubt that much of the delicacy of manipulation, and the perfection in finish that characterized Dr. Townsend's operations, was due to this early instruction. How long he remained in the business, and whether it was congenial to his health, I am unable to say. It was not however until 1832, when twenty-eight years of age, that he entered upon the practice of dentistry. His first effort was made in Westchester, a small town near Philadelphia. After remaining there a short time he returned to the city, and established himself in the neighborhood of the celebrated Dr. Edward Hudson, who was at that time the leading practitioner in Philadelphia. An acquaintance soon sprang up between them, but was unfortunately of a short duration, as Dr. Hudson died in the following year, (1833.) In speaking of his departed friend, Dr. Townsend invariably acknowledged his obligations for the valuable advice he had obtained during their brief intercourse. He also frequently spoke in a very kind manner of the suggestions he had received, and the facilities that had been afforded him in his visits, by the late Daniel Neall. Dr. Townsend soon established an excellent reputation, and throughout a long career enjoyed a most enviable position in the estimation of the profession and the community; for he not only obtained the entire confidence of the latter, but commanded the universal respect of the former. This was owing, in the first place, to the soundness of his judgment, which was not only implicitly relied on by his patients, but sought after in consultation by his fellow practitioners; and secondly, to the high order of his practice, which was ever worthy of imitation; for as an operator, he had no superior, and very few equals. In addition to these qualities, possessing the courtesy and affability of the polished gentleman, an equanimity seldom disturbed, a refined and cultivated taste in literature and art, and a nice discrimination in the shades of character, he was enabled to accommodate himself to the temperaments and tastes of those with whom he came in contact. These qualities which the Dental practitioner should invariably possess rendered his company at all times attractive, and won for him hosts of friends and admirers.

---

* Since dead.

Entering the profession when it was enveloped in an almost cimmerian darkness, he enjoyed the gratification of seeing it emerge from its obscurity, and eventually take rank with the other professions in usefulness and importance. Cherishing a constant and deep interest in the advancement of the profession, he was ever among the first to lend his influence in support of any movement having that object in view.

Thus we find him a member at the first meeting of the American Society of Dental Surgeons, held in New York on the 18th of August, 1840, and at all its subsequent meetings, until its dissolution in 1856, taking an active and prominent part in the deliberations.—This was the first associated movement on the part of the profession, and was the commencement of a new era, leading the way to the establishment of the Colleges, Societies, and Magazines now in existence.

At a later period when Prof. J. T. White, regarding Philadelphia as the great center of Medical Science in the New World, and impressed with the advantages that would accrue to the profession, conceived the idea of establishing a Dental College, in this city; he received from the members of the Pennsylvania Association of Surgeon Dentists a hearty support to his movement. Of these no one was more zealous or active than Dr. Townsend; and when after many trials and disappointments success attended the effort,—at a period of life when men seek that rest and relaxation from the labors of the world, which is the just reward of duties well performed, and days well spent, with a self-sacrificing disposition worthy of emulation, he assumed the cares and responsibilities of a teacher, with the knowledge that his only requital would be the pleasant consciousness of discharging a duty that he felt he owed the profession. Sacrifices made under such auspices enlist his memory to the grateful consideration of every practitioner who truly loves his calling.

The interest that Dr. Townsend always manifested in the welfare and advancement of the student, made him deservedly popular with the classes to which he lectured, and his fluency of address and hearty manner made his teachings not only attractive, but caused his precepts to sink deep in the minds of his pupils.

In addition to the instruction imparted in the school, at stated periods, before and during his connection with the institution, he was in the habit of inviting to his office a number of young practitioners and students, with the express purpose of operating before them, and offering valuable suggestions in the management of practice. These re-unions were not only of great service to those who attended them, but their influence was extended to the profession at large, and contributed greatly in elevating the standard of operative dentistry to its present high position.

His connection with the Dental College was a limited one, as at the commencement of the third session, in compliance with the wishes of his relatives and friends, who saw that his increased labors were undermining his health, he reluctantly tendered his resignation. His interest in the advancement of the profession was not however diminished by this event; for a short time after this, convinced that the American Society of Surgeon Dentists, from the want of interest manifested in it by the members, had become an inoperative and almost useless organization, he conceived the idea of establishing an association, upon a basis broad enough to take in every practitioner in the land. He thus became the founder of the American Dental Convention. If all that was anticipated from this movement has not been realized, it has at least been instrumental in establishing a pleasant acquaintance between practitioners far removed from each other by their respective fields of labor, in affording facilities for an interchange of views in theory aud practice that otherwise would not have occurred, and in promoting the organization of the numerous local Societies that are springing up all over the country.

At a later period, when the Trustees of the Philadelphia College of Dental Surgery assumed the unwarrantable liberty of conferring honorary degrees, in opposition to the wishes of the faculty, upon persons whose obscurity did not entitle them to the distinction, and the faculty, unwilling to submit to such an indignity, determined to abandon the institution, they found in Dr. Townsend a hearty co-operator in the establishment of this school.

This last enterprise was, however, too great an undertaking for his physical capabilities, and no doubt contributed much in developing the disease that terminated his life of usefulness and of honor. The proprieties of the occasion have induced me to refrain from the indulgence of the personal feelings which arise in my breast, at the death of one who commanded my sincere regard ; but I am compelled to say that I regard it as a privilege that in the very outset of my career I was so fortunate as to secure his acquaintance ; and that of my own professional discipline and attainments, in an operative point of view, whatever they may be, I owe much to that intercourse, and the close attention to the discharge of my duties which I was compelled to pay, from having his superior efforts coming constantly under my notice.

Conscious that what has been said fails to do justice to his many excellencies, I would close this poor tribute to his memory by presenting him to those who are entering upon, or pursuing the same career, as an example worthy of imitation. Truly may it be said of him,—

"Happy he
Who to his rest is borne,
In sure and certain hope,
Before the hand of age
Hath chilled his faculties,
Or sorrow reached him in his heart of hearts ;
Most happy if he leaves in his good name
A light for those who follow him,
And in his works a living seed
Of good, prolific still."

If now living, how would he enjoy such an assembly as this. For to one who truly loves his profession, what sight can be more agreeable than that of youthful hopes and energies gathering with one accord from the remotest quarters of this wide spread country,—from the shores of old Europe, and the islands of the Pacific, to a common center, with the express object of obtaining a thorough knowledge of that science, to the advancement of whose interest your own life and best energies are devoted. It is delightful to be in relation of friendship with such an assemblage of sensitive and intelligent natures, to feel in your own heart a glow of kindly interest in these aspirations, to be sensible that from each bosom there is a flow of warm interest towards yourself mingled with its emotions.

It is a high, I had almost said, it is a glorious privilege to be one of the leaders of such a band, in the pursuit of their noble objects.—Yes, gentlemen, when I look upon this assembly, and directing my views beyond the present, I behold in your future lives the benefit of our fellow creatures and the honor of our profession, I confess that I feel proud of the relation which constitutes me one of your guides in the path which you are about to tread.

But if the office is honorable, it is also one of great responsibility; for the subjects that are to engage our attention are not matters of mere speculative curiosity and intellectual amusement, to be taken up to-day, and dismissed perhaps with unconcern to-morrow. They involve no less than that of making known to you the wonderful structure and functions of the organs composing the body of man. Of man, who, in the language of Prof. Pancoast, "is of all animals in his infantile state the most helpless and unprotected."

"The insect, at birth, comes forth armed even with weapons of defence, and is provided with marvellous internal instincts sufficient for self-preservation. The young of birds, and quadrupeds, are in a few days cast off, capable of procuring their own support. To all of these, fair nature is the kindest mother still. She clothes each animal after its kind with hair, with feathers, or with scales, strengthens their steps, directs their instincts, and endows them with instruments of motion most appropriate to their sphere, according as they are to soar in the air, to walk the surface of the earth, or to swim in the waters of the deep.

"Man alone comes utterly naked and helpless from his mother's womb, with a head so large that its own muscles cannot lift it, limbs so feeble that they offer no support, with a brain so soft that it is nearly destitute of functions, and liable from the instant to a crowd of diseases peculiar to the race, bereft as it were of every endowment but that of sensibility to pain, hunger and thirst,—requiring to be clothed, and watched, and fed, and needing the fostering care of parents or guardians during his slow progress towards adolescence.

"He grows up into manhood, and we find him the master of the earth—not by any superiority as regards physical force or rapidity of movement, but through the instrumentality of a larger brain, and a peculiar mental endowment.

"The large developement and tender texture of the brain, which was the great cause of his helpless feebleness in infancy, has now become the source of his almost God-like power. The very protraction of that infancy has proved one of the chief means of his strength, as it has rendered him docile to instruction, and enabled him to acquire the treasures of education.

"His natural nakedness has led him to the invention of the spinning-jenny and the loom. His social wants have built up cities. His refined and delicate appetite has induced him to cultivate the earth, till he has made the wilderness to blossom as the rose.

"His relative physical incapacity has caused him to employ the powers of steam, that he may move with a swiftness scarcely excelled by the eagle in his flight. His deficiency in that fine instinct, which leads so unerringly birds, beasts, and fishes in their periodical migrations, has caused him to devise the compass, and to watch the stars, to provide himself with guides, by which, he may traverse the whole earth at will."

His desire for the most speedy mode of intercourse with his fellows situated at distance, has led to the establishment of the magnetic telegraph; until at last by means of attenuated wires, stretching thousands of miles over the surface of the earth, and far down in the depths of the sea he is enabled to transmit messages of love, of friendship, and of business, from city to city, from state to state, from continent to continent, with the rapidity of lightning.

"He extends his conquests over the earth, but it is not to destroy—it is to beautify and adorn it. The nice refinement of his senses leads him to provide for even more than physical wants. The very elements, simple in themselves, are made by the illusions of his fancy to wear a shape and form more agreeable to his imagination.

"Filled to the full with this multiplication of enjoyments, and satiated with power, he advances, till with years there comes, sooner, or later, according to the natural strength, or feebleness of his constitution, the second childhood of old age, the final change to the scene. The senses, one by one, become dulled and extinguished, the right arm gradually forgets its cunning; the bones become fragile and unresisting, the joints stiff and unyielding, and he falls bent with years, and wasted with exertion, almost unresistingly into the tomb.

Regarded in a purely scientific point of view, it seems impossible to overrate the importance of a study, having for its object the investigation of the structure and functions of such a being. But when viewed in connection with the *practice* of medicine, of Surgery and Dentistry, its importance becomes augmented. As a correct knowledge of Anatomy and Physiology must ever be the foundation of rational practice in either, the first step towards the cure of disease, is to find out what the disease is, and where it is located. Without a knowledge of the offices which the various parts fulfil in the animal economy, our search to determine what organ or function is deranged, must be most vague and indefinite.

As evidence of the necessity of fully comprehending the functions of a part, it was formerly supposed, prior to the investigations of Sir Charles Bell, that the facial nerve, or portra dura of the seventh pair, presided over the sensibility of the face, and it was believed to be the seat of that painful disease called Tic-doulourex. Exsection of the nerve, was several times performed, for the relief of the patients, with no other result, than inducing paralysis of the side of the face operated on.

It is now known that this is the motor nerve, of the superficial muscles of the face, and that through them, it controls the aspect of the countenance, and when paralysed that the play of the features is destroyed. It is in a very great degree devoid of sensibility, and therefore could not be the seat of a very painful disease. On the other hand, it is a well established fact, that the trigeminus or fifth pair of nerves, which supplies the teeth, the eyes, tongue, ear, and other parts of the face with sensibility, is the nerve involved in this affection, and furthermore, that Tic-doulourex frequently has its origin in the exposed pulp of a decayed tooth. Physicians ignorant of this fact, have treated patients laboring under the affection for weeks, and months, and exhausted the Pharmacopea in efforts, to relieve their sufferings, when all that was demanded was the extirpation of a pulp, or the extraction of a tooth.

Depending as the whole body does, for its health, on a due harmony between all its parts, the moment when that harmony becomes disturbed, there is a discordance established, which more or less affects the health of the general system. Thus a diseased tooth, may become the cause of serious constitutional disturbance. Regarding the teeth simply as isolated portions of the animal economy, their development is full of remarkable phenomena; but looking to their complicated structure, in alliance with the brain, nearly related to the other organs concerned in nutrition, that are linked with the great sympathetic. the varied influence they possess affords a most extensive field for investigation.

To fully appreciate the relations that the teeth bear to the various organs of the body, it is necessary that you should become acquainted with the entire organism.

In former times it was believed that a perfect knowledge of the anatomy of the head, was all that the dentist required, in the practice of his profession, and there are still many practitioners, who cling to this contracted notion. That he should be *thoroughly* acquainted with that part of the body, there can be no question, but that he shall limit his acquaintance with the human economy to that part alone, is a most absurd and untenable position.

It matters not how intimate your acquaintance may be with the bones and muscles of the head, the blood vessels and nerves, distributed to the teeth, and the microscopical structure of those organs; if the nervous system, with its reflex actions, the circulatory apparatus, with its life giving fluid, and various other organs with their functions, remain enigmas unsolved by you, it will be impossible for you to understand how the teeth can be instrumental in developing the cerebral, and other sympathetic derangements, that children are liable to during Dentition ; to appreciate the nature of the painful affection already alluded to—Tic-doulourex—the odontalgia of the parturient female; or the constitutional effects induced by the presence of decayed teeth, and vitiated buccal secretions.

Acquainted with the system and the derangements, that it is liable to form dental inaditions; with the stroke of a lancet across the gum of an erupting tooth, you will frequently be enabled, te prevent the establishment of serious constitutional disturbance in infancy.

By judicious advice, proper treatment, and well timed operations upon the teeth of children, or adults, you not only relieve their sufferings in that direction, but will be able to remove functional derangements existing in other organs, induced by a diseased condition of the dental organs; and also indirectly contribute to the tone and strength of their systems. And when consulted by the intelligent physician, in cases where he has reasen to suppose that the teeth are in some way or other connected with a disease he is treating, by your more intimate acquaintance with their derangements and sympathies you will not only be able to assist him in forming his diagnosis, but command his respect by the extent of your acquirements.

Again, when Anatomy and Physiology constitute part of the education of the school boy, and the young miss that enters your office as a patient, or that you meet in the social circles, is frequently better informed on the modus operandi of the organism, than gentlemen who wear the honors of the doctorate; and at a period when the public is so anxious to be informed, that popular lectures on the subject are attended by crowds of persons night after night, with unabated interest; it behoves you, to see that no opportunity for acquiring a knowledge of the human system is neglected, so that when the day of trial comes you will not be found wanting.

Do not imagine gentlemen, that speaking thus decidedly in behalf of this department, I am insensible to the importance of the other studies that will engage your attention during the session, no one can be more alive to their importance. I have felt that their claims to yonr serious attention will be duly set forth by my able colleagues. I do not ask, therefore, that you should devote yourself to Anatomy and Physiology, at the expense of the other branches, but that in studying them, you will not do so cursorily, but thoroughly. Mere hearing and reading are not enough. You must read with discrimination, and hear with thoughtfulness. It will not suffice that you dip lightly into the study. A hasty and superficial examination of a subject is often worse than none. It was said of Mirabeau, that he could read with his fingers, so rapidly did he run over the leaves of his book, and apparently master its contents. Yet this was said of him, rather in his character of literary reviewer, where a comprehensive view of the scope and purport of the work, together with a minute knowledge of its details was not demanded. In the investigation of a science, such study can lead only to erroneous notions and the chaotic obscurity of false learning. With regard to our subjects you need clearness of views as well as a map of facts. Pursue their investigation with industry and zeal, in an enlightened spirit, and you will soon attain a clearness and comprehensiveness of knowledge, and a distinctness of aim, denied to the careless student and superficial thinker.

The time allowed you for the accomplishment of this task, before you enter upon the active business of life, is short and proportionably precious. Let me entreat you to make the most of it. Many of you cannot as yet fully appreciate the magnitude of the present occasion, in its relation to your future lives. Hereafter, you will better understand it, in the retrospect, and accordingly as you use your opportunities, will that retrospect be pleasant or painful. Then,

Gather the rose buds while ye may,
Old time is still a flying,
And the same flower that bloom'd to-day,
To-morrow will be dying.

A GLANCE AT THE HISTORY AND PROGRESS OF DENTAL SCIENCE, FROM THE EARLIEST AGES TO THE PRESENT TIME.

(*Continued.*)

The progress of Dentistry through the middle ages was slow. While many Physicians and Surgeons of the period looked upon the study and practice of the Science as a frivolous waste of time, others as much overrated its importance. While one would at the slightest appearance of pain in the maxillaries, ruthlessly extract the teeth, healthy or unsound, as the case might be, others would prepare the patient for after operations, by copious bleedings and purgations. Both generally succeeding in killing the patient, either by too little care, or too much. One of the first writers of these times was **Bruno** of Longobucco. This practitioner favored strongly the red-hot iron system, with which instrument of torture he attacked diseased gums, fistulas or hollow teeth, indiscriminately. He does not speak of extraction by means of instruments, but recommends the application of the juice of the milk-thistle, mixed with flour, to the roots, when, he informs us, they will drop out of their own accord. **Lanfranck**, of Milan, follows him with considerations that the extraction of a molar is always a grave, and often a dangerous operation, and counselling the use of narcotics in odentalgia. **Peter**, of Spain, does not spare the old theories of magic and superstitious formulas in his practice. But enough of the wise notions of these *Denticos*, have been given to exhibit that the time was not yet come for Dentistry to take that start among sciences which was finally to bring it to its present position. Still little by little signs of slight progress come up to us from out of this slough of whimsical and silly theories. Thus men began to improve on the dangerous roughness of the instruments in use; and we read of a new forceps, (resembling, says the old writer from whom we quote), the foot of a deer. To free the teeth from tartar, acids were used, and doubtless had the desired effect. The objections which had hitherto existed against extraction, and which had been so forcibly urged by more ancient writers, now began to fade away, and Dentists rushed as far into the other extreme; while the idea that caries is caused by worms, gained ground rapidly, and was held in favor for a long time. Many means for getting rid of these parasites were proposed and followed with doubtful success. Some burned out the diseased tooth with the wood of the ash, filling up the cavity with honey; others used the inevitable red-hot iron, all, however, having the same benevolent intention—to make the worm's residence too hot to hold him. Until this period nothing had been employed for filling the teeth, but resinous and aromatic substances, intended rather to calm the pain than to strengthen the member. The first who speaks of filling with gold leaf, is JOHN ARCULANUS, who filled teeth with especial reference to their temperature. When the disease was of a cold nature, it was necessary to have warm substances, and *vice versa*. In order to cause the heat to penetrate farther, he broached the tooth as far as possible with a small instrument. Next appears A. BENEDETTI, who gives himself up to the study of worms and their habits. To destroy them, he mentions *eau de vie*, with other nostrums, but warns the unsophisticated practitioner against the heedless use of opium, for, as he naively remarks, "he had seen the abuse of this drug plunge a gentleman of Padua into an eternal sleep." JEAN DE VIGO permitted abscesses of the gums to "ripen," then treating them with honey and Egyptian ointment. He used for caries, especially in the molars, the file or rasp, and filled with gold leaf, apparently approximating to the modern treatment. He also wrote strongly against the inconceivable quackery and charlatanism prevalent in Dentistry, and demanded that the practice should be taken from the hands of travelling barbers, and placed under the care of proper surgeons. About this time appeared the first work devoted entirely to Dentistry as a science. This was written by GAUTIER-HENRY RYFF, but does not seem to have contained many new ideas upon the subject, since it is not mentioned in the works of surgeons who wrote at the same period. AMBROISE PARE, a surgeon of note, and whose works possess much value, was very successful in cases of advanced odontalgia. He invented many new instruments resembling those in present use, and made himself marked in those days, as a skillful practitioner and scientific man. Where teeth were sound, but loose, through age or otherwise, Pare fastened them with bands of gold to their more robust neighbors. He is also the first who makes mention of filling cavities in the jaws of one, with teeth from another. A lady who had lost one of her teeth, had one extracted from her maid and fastened in its place—certainly an original method of rendering domestics practically useful. But Pare strongly objected to this practice, preferring that teeth should be manufactured from bone or ivory, and attached by gold or silver to the jaws. Finally, Pare was also the first to scarify the gums in difficult dentition, manfully making his first experiment upon his own son.

BIBLIOTHECA ODONTALOGICA.

D.

Delabarre, E. F. Dissertation sur l'histoire des dents, 4to. Paris, 1806.

——————— Traité de la seconda dentition, 8vo. Paris, 1819.

——————— Traité de la Partie mecanique du chirurgien dentiste, 2 vols, 8vo. Paris, 1820.

Delafons.—Treatise on extracting and fixing teeth, 8vo. London.

Delamonde, A.—Epitre à Marmont, 8vo. Paris, 1825.

——————— Memoire, 12mo. Paris, 1824.

De Loudes, C.—Surgical, Operative and Mechanical Dentistry, 8vo. London, 1840.

Diest, Jean de.—An hæmorrhage ex dentium evulsione chirurgi incuria lethalis? affirmi. Questio medica chirurgia, 4to. Paris 1735

Downding Richard.—Popular Essay, 8vo. London, 1815.

Drouin.—Sur les maladies des dens. Strasbourg, 1761.

Dubois de Chemant.—Artificial teeth, 8vo. London, 1804.

Dubois-Foucon, Jean Joseph.—De dentium vitiose positorum curatione; theses anatomico chiruricgicæ, 4to. Paris, 1775

——————— Exposé de nouveaux procédés pour la confection des dents de composition, 8vo. Paris, 1808.

Duval, Jacques Rene.—*A Dentist, born at Argentau, in Normandy, France, Nov.* 12, 1758; *died at Paris. May* 16, 1854. *Received a complete surgical education under the great teachers,* Louis *and* Delaporte. *Was elected a member of the Academy of Medicine. Besides his works upon the teeth, he wrote several upon miscellaneous subjects.*

——— Des accidente de l'extraction des dents, 8vo. Paris, 1802.

——— De l'arrangement des dents, ou Méthode naturelle de diriger la seconde dentition, etc., 8vo, Paris, 1820.

——— Conseils des poètes anciens sur la conservation des dents, 8vo. Paris, 1805.

——— Le dentiste de la jeunesse, ou moyens d'avoir, les dents belles et bonnes; precede des conseils des poetes anciens sur la conservation des dents, 8vo. Paris, 1817.

——— Expèriences et Observations pratiques sur les dents plombées, qui sont susceptibles de l'influence galvanique, 8vo. Paris, 1807.

——— Extrait d'un Memoire sur l'atrophie des dents,

——— Memoire sur la position relative a l'ouverture externe du canal maxillaire, pour servir à la demonstration de l'accroissement de la mâchoire inférieure.

——— Notice historique sur la vie et les ouvrages de M. Jourdain, *dentiste.* Paris, 1816.

——— Notice des travaux entrepris sur les dents en France, depuis 1790, 8vo. Paris, 1825.

——— Observations sur l'état des os de la machoire, dans les ulceres fistuleux de gencives et dans les fistules dentaires, 8vo. Paris, 1814.

——— Observations sur quelques affections douloureuses de la face considérées dans leur rapport avec l'organe dentaire, 8vo. Paris, 1841.

——— Recherches historiques sur l'art du dentiste, 8vo. Paris, 1808.

——— Réflexions sur l'odontalgie, considérée dans ses rapports avec d'autres maladies, 8vo. Paris, 1803

MINUTES AND DISCUSSIONS OF THE INDIANA STATE DENTAL CONVENTION,

Reported for the New-York Dental Journal and Reporter, by
J. T. T. & G. H. P.

In pursuance of a call made at a preliminary meeting held on the 18th Sept. last, in the city of Indianapolis, a large number of the profession of that, and other States met in Convention at Ramsey's Hall, for the purpose of forming a State Dental Association.

The proceedings of the preliminary meeting were read and acted upon in reference to a permanent organization.

Dr. John F. Johnston, who was president of the preliminary organization, delivered an address on the objects of the Association, (which may be seen on another page,) Dr. G. H. Perine, of N. Y., moved that the chair appoint a committee to arrange order of business; Drs. P. G. C. Hunt, Indianapolis; G. Lupton, Shelbyville; A. M. Moore, Lafayette, were appointed by the chair.

ORDER OF BUSINESS.

1. President's Address.
2. Reading of the Minutes.
3. Presenting Constitution and By-Laws.
4. Election of Officers.
5. Election of Members.
6. Appointing Committees.
7. Reading Papers and Essays.
8. Reports of Committees.
9. Discussions.

SUBJECTS FOR DISCUSSION.

1. Best means of preserving the teeth.
2. Treatment of exposed nerves.
3. The best means to correct irregularity of teeth.

4. Mechanical Dentistry.
5. Filling Teeth.
6. Miscellaneous.

P. G. C. Hunt,
G. Lupton,
A. M. Moore, } Committee.

On motion of Dr. A. M. Moore, Resolved, That a vote of thanks be presented to Dr. Johnston, for his interesting address; with the request of a copy for the Dental Journals. Adopted.

Dr. G. C. North moved that a committee of five be appointed to prepare Constitution and By-Laws.

The following were appointed by the chair:

G. C. North, Indianapolis,
P. G. C. Hunt, do.
R. H. Hurd, Attica,
S. B. Smith, Terre Haute,
G. Lupton, Shelbyville, } Committee.

On motion of Dr. Satterwite of Franklin, Resolved, That the Constitution be received and the Committee discharged.

On motion of Dr. P. G. C. Hunt, the Constitution was adopted and the association entitled the Indiana State Dental Association.

CONSTITUTION OF THE INDIANA STATE ASSOCIATION.

Article 1.—This Society shall be known by the name of the Indiana State Dental Association.

Article 2, *Sec.* 1*st*.—The officers of the Society shall consist of a President, three Vice-Presidents, a Recording and Corresponding Secretary, Examining Committee of five and Treasurer.

Sec. 2*d*.—The officers shall be elected by ballot, at each annual meeting, and their duties shall be such as appropriately belong to such officers in other deliberative bodies, a majority of votes only shall be necessary to a choice.

Sec. 3d.—The association now forming shall be chosen from members of this convention, by ballot, two-thirds of all the votes given being necessary to an election.

Sec. 4th.—After the formation of this Society, all applicants for membership shall be examined by the examining committee, and whereas, the chief objects in organizing this association, is the elevation of the profession in Indiana, and to promote harmony and concert of action among the *legitimate* thereof, to promote the free interchange of sentiments both written and verbal between members of this association, and to draw a line of distinction between the worthy and unworthy. Therefore, Resolved, that no one shall be eligible to membership unless he possesses a good moral character, a legitimate practice which shall be understood to mean the practice of dentistry to the exclusion of all other callings, neither must he resort to the Empirical practice of self-laudation in newspapers, or any otber undue means :—this to apply to the reception of members during the formation of this association, as well as afterwards.

Sec. 5th.—All candidates for membership, recommended by the examining committee, shall have (in order to be received as members,) sustained a satisfactory examination on all the branches of Dental Science, and in every other particular, as set forth in Article 4th, provided however, that those who have Diplomas from a respectable Dental Association may be received without examination by the committee.

Applicants recommended by the committee shall be balloted for ; two-thirds of the votes given shall be necessary for membership.

Article 6.—Any member may be expelled from the association for immoral conduct, malpractice, or other sufficient cause, on motion of an investigating committee, appointed for that purpose, by a two-third vote of all the members present.

Article 7.—This association shall be composed of two classes, viz. :—Acting and honorary members.

Article 8.—Each member at his initiation shall pay into the treasury of the society, the sum of $3, and annually thereafter the sum of $2, and all those who shall fail for two successive years, to pay their annual dues, shall forfeit their membership.

Article 9.—No member of this society shall take a student for a shorter term than two years, unless he shall have received instructions previously to equal the term.

Article 10.—The meetings of this society shall be held semi-annually, at such time and place as a majority of the members present at each, may determine.

Article 11.—The association may receive contributions in money, books, or other property, which may be either used or sold in aid of its purposes.

Article 12.—Seven acting members beside the president and chairman shall be necessary for the transaction of business, at the opening of any meeting.

Article 13.—In the event that a quorum cannot be obtained at any regular meeting of the association, the time and place on the following year, shall be the same as the preceding year.

The president shall have the power in case of a failure of any meeting, to call a meeting of the association, at any time that he may deem proper.

Article 14.—This constitution may be amended by a vote of two-thirds of the members present at any regular meeting of the association.

On motion of Dr. Perine, the election of officers was proceeded with, which resulted as follows :

The chair appointed as Tellers,

Drs. G. H. Perine, of New York City, John. T. Toland, Cincinnati, Ohio.

President.—Dr. J. F. Johnston, Indianapolis.

Vice Presidents.—Drs. J. P. Ulrey, Rising Sun ; P. G. C. Hunt, Indianapolis ; A. M. Moore, Lafayette.

Recording and Corresponding Secretary.—Dr. G. C. North, Indianapolis.

Treasurer.—Dr. T. M. Nichols, Indianapolis.

Examining Committee.—Drs. H. R. Hurd, - Attica ; J. Wood, Greensburg ; P. G. C. Hunt, Indianapolis ; J. P. Ulrey, Rising Sun ; S. B. Smith, Terre Haute.

On motion by Dr. G. Lupton : Resolved, That we admit no dentist to membership in this Society, who has not a fixed place of residence, or who is in the habit of moving from place to place, to avoid the responsibility of his quackery, thereby bringing reproach upon the profession, generally. Adopted.

Election of members was next in order, and constitution signed.

Drs. G. H. Perine of N. Y. City; J. L. Broffett, Paris, Ohio; John T. Toland, Cincinnati; were voted as honorary members of the Association.

On motion by Dr. Hunt, adjourned to meet at 7 o'clock.

EVENING SESSION.

President in the chair. Minutes read and approved.

The Secretary read a letter received from Dr. J. Hass, of Lafayette, Indiana.

On motion of Dr. Perine, the letter was received.

Dr. H. R. Hurd of Attica, presented the following resolution, which was read and adopted.

Resolved, That the Medical and Dental profession in good standing from abroad be invited to participate in the discussions.

The 1st subject, Best means of preserving the teeth was presented for discussion. Drs. Hunt, Moore, Nichols, Hurd, Smith, Perine, North and others expressed their views.

On motion, adjourned to meet at 10 o'clock, A. M.

SECOND DAY—MORNING SESSION.

Minutes read and approved.

The following resolutions were presented:

By Dr. G. R. North, *Resolved*, That the Treasurer be directed to pay all orders for monies belonging to the Association which are signed by the President and Secretary thereof.

By Dr. Lupton, *Resolved*, That we now consider the time and place for next meeting. Adopted.

Dr. Lupton moved, That when we adjourn, we adjourn to meet at Shelbyville, Ind.

Dr. Hunt moved to amend it by substituting Indianapolis.

Dr. North moved, That the resolution be laid upon the table Carried.

Dr. North offered the following, which was adopted: Resolved, That the clause in the Constitution be altered from semi-annual to annual meeting.

On motion, it was unanimously resolved, That when we adjourn, we adjourn to meet in Indianapolis, Ind., on the first Tuesday of January, 1860.

Dr. G. H. Perine of New York, presented the following resolutions of condolence on the death of Dr. Elisha Townsend of the Philadelphia Dental College, which were unanimously adopted.

Whereas, It has pleased an all-wise Providence to remove from among us our much esteemed, and highly honored fellow member, Dr. Elisha Townsend, Be it therefore,

Resolved, That it was with sincere and painful regret that we received information of the death of this worthy member and shining luminary of our profession—whose talents and learning, and devotion to science; and whose sincerity, and unselfish liberality endeared him to all hearts. He was ever foremost in promulgating truth and exposing error. His whole life was a scientific and Christian sacrifice for the adornment of his profession, and his fellow-men, and the absence of his aid and council will make a void not easily filled.

Resolved, That we sympathise with heartfelt sorrow with the family and friends in their affliction, and unite in offering to his memory that tribute of admiration and respect which is due to exalted genius, and devotion to science for the benefit of his fellow-men, and the elevation of the profession to which he belonged and loved.

Resolved, That the Secretary be instructed to send a copy of these resolutions to the bereaved family, and the Dental Journals for publication.

Treatment of exposed nerves being the next subject in order, a paper was read by the President from Dr. W. H. Shadoan of Rockport, (which see another page,) which was afterwards discussed by Drs. Smith of Terre Haute, Hunt of Indianapolis, Hood of Greensburg, Lupton of Shelbyville, Satterwite of Franklin, Moore of Lafayette, and Baraffett of New Paris, Ohio.

After the discussion closed, on motion by Dr. North, Resolved, That a Committee of three be appointed to prepare the order of business for the next meeting, and furnish copy early to the Dental Journals for publication, and recommend that the profession come fully prepared.

Drs. J. P. Ulrey, Rising Sun.
" A. M. Moore, Lafayette.
" W. R. Webster were appointed.

By Dr. Lupton, Resolved, That a committee consisting of three be appointed to draft and present a Fee bill for adoption.

Committee, Dr. G. Lupton, Shelbyville,
" R. H. Hurd, Attica,
" T. M. Nichols, Indianapolis.

The third subject was now presented for discussion, "The best means of correcting irregularity of the teeth."

The subject was discussed at some length, by Drs. Moore, Dills, Johnston, Hood and others.

On motion, the subject closed, and the fourth topic—Mechanical Dentistry was taken up and discussed by Dr. Saterwhite, Perine, Hunt, Moore, Johnson, Hood, Nichols, and others.

On motion, adjourned to meet at 2 o'clock.

AFTERNOON SESSION.

On motion of Dr. Smith, the reading of the minutes be dispensed with.—Adopted.

The last subject under discussion was continued, by request of Dr. Hunt; it was resumed by Dr. Perine, of New York, and discussion continued by Dr. Hurd and others.

A letter was read from Dr. Shadrun, regretting his inability to be present, and promising future co-operation, on motion the letter be received and placed on file.

Subject 5th.—*Filling Teeth* was then taken up and discussed by Drs. Hunt, Saterwite, Perine, and others.

On motion of Dr. Hunt, adjourned to meet at 7 o'clock, to discuss miscellaneous matters.—Adopted.

EVENING SESSION.

Association met pursuant to adjournment. Minutes of preceding meeting read and approved.

. *Dr. Lupton*, chairman of the committe, on Fee Bill, read report.

On motion, report was received and committee discharged.

Dr. Hunt, moved to take up Fee Bill, examine item by item, modify, reject, adopt, and recommend as a whole to the next meeting of the association.

As follows—adopted.

Full set of Teeth on Gold or Platina,	$100 to $150
One Tooth, on Gold Atmospheric pressure,	10 " 12
Two Teeth " " " "	12 " 25
One Tooth, " " With Clasps,	8 " 10
Two Teeth, " " " "	10 " 12
Three, " " " " "	15 " 18
Four, to ten, " " " $4, to $6, per tooth.	
Obturator,	50 " 100
Filling Molar Tooth (fang included,)	12 " 25
" Incision or, Bicuspid, "	6 " 15
All other Filling,	2 " 10
Extracting teeth in office (Each,)	50 cents to $1
Visit Extracting or advice,	1 to 5
Administering Chloroform,	2 " 15

On motion, of Dr. Hunt adjourned to meet at 7 o'clock, to take up miscellaneous business.

Miscellaneous subjects being now in order, were discussed by Drs. Hunt, Nichols, Johnston, Smith, Perine, and others—Interesting cases and specimens were presented.

On motion of Dr. Hunt, association adjourned to meet on the First Tuesday in January, in the city of Indianopolis, Ind., 1860.

Pursuant to a previous invitation, (extended to the entire association) upon the adjournment of the association, some fifteen or sixteen of the Dental, with several friends of the medical profession, repaired to the residence of Dr. J. F. Johnston, (our worthy President,) to partake of his hospitalities.

At 9 o'clock, all sat down to a table most bountifully supplied with all the delicacies which could tempt the palate, and to witness the performance would convince an observer that—however self-denying in other respects, in this case, they could not resist temptation.

After partaking of the good things set before us, the President Dr. Johnston, made a neat and pointed adddress, expressing his pleasure in meeting the profession in convention in Indianapolis, particularly in meeting them at the same board, under his own roof.

The following sentiments were presented by Dr. Perine.—

The Medical and Dental professions. In union is strength; may they ever be equal to the most obstinate *molar*, and in unity as beautiful as the most perfect *Conntinuous Gum.*

Responded to by Dr. Parvin, of Indianapolis, who spoke of the relationship of the professions, and the necessity of the same for the general good of mankind.

By Dr. Lupton—The Medical profession, may they always be (" Wright.")

Dr. Wright, of Indianaplois, responded and gave the following: The Dentist, a Scarecrow, used by indulgent mammas, to frighten unruly children.

Beautifully responded to by Ladies present.

By Dr. North—Our hostess. May she live to receive the reward for her present kindness in the memory of the profession, when the present members have given away to a more permanent Set.

Responded to by Mrs. J. F. Johnston, expressing herself delighted.

By Dr. Hunt.—The Dental Reporter, may he soon be able to report her.

Toland, responded as follows :—

Though too modest to attempt to do justice in behalf of our amiable hostess, and not a ladies man; still having been called upon, I deem it imperative to serve Actions are but the reflex of the mind and heart. From brief acquaintance and observation of their kindness and hospitality, I feel warranted in the assertion that Mrs. Johnston seeks no greater happiness than what is afforded by the appearance of enjoyment she has been enabled to afford her guests now present. Generosity and liberality are the twin sisters of that noblest quality—"mercy"—which as the poet describes it.—" Falleth as the gentle dews from Heaven, upon the place beneath, it is twice blessed, it blesseth him who gives and him who takes; 'tis mightiest in the mightiest." May the organization of the present meeting of the Profession receive cultivation to insure the full and perfect development of an arch, which may permanently bind together succeeding generations of Dentists to their scientific elevation, and the alleviation of all he ills to which the Dental organism is subject.

Dr. Moore—While we are favored with a (Hunt,) may we often meet with a Hurd.

Dr. Hurd—May the herd of Dentists ever enjoy themselves as we do now.

By Dr. Johnston—Our Brethren at the East.

Dr. Perine being called upon, responded as follows:

Mr. President—It is with pleasure as well as with diffidence, that I respond. It is with pleasure, Mr. President, that I look upon the faces of those with whom agreeable reminiscences are associated. Pleasant to meet where many of us for the first time meet each other—pleasant to see the members of our profession, and it is pleasant to be one among you, to form new and renew old acquaintances, and to bring to recollection days gone by.

It is by the co-operation of such of my professional brethren as I see before me and through the association of the press and our schools, the good influence has spread over the length and breadth of the land, from the Shores of the Atlantic to the Coasts of the Pacific its influence has telegraphed its way. Our Institutions founded by such skill and reared by such labor must endure. Hereafter we may look forward to the increased and steady advancement of our profession: long may the influence be felt in the hearts of the brethren, and when generations shall have passed away, let the representatives of this and other similar Associations unite in their Yearly Anniversaries as we do to day, ever improving and improved.

At a late hour all retired delighted and satisfied with the entertainment, as well as the labors and achievements of the association, a more cordial and enthusiastic spirit seamed to pervade, (all feeling that it was good to be here,) determined to push forward the objects of the association with a hearty good will.

Address of Dr. J. F. Johnston *before the Indiana State Dental Convention.*

Gentlemen:

As chairman of the preliminary meeting, which adjourned as you have heard to meet here to-day, it is made my duty to call this body to order, and preside over it until the regular officers are elected. I must ask your kind indulgence however, for the many errors I shall undoubtedly commit even during my very brief term of office, for I am mainly unacccustomed to such duties. I have also been requested to make a few remarks with reference to our undertaking. This, gentlemen, it would almost be needless to tell you, I am *entirely* unaccustomed to. I am a Dentist, and *not a talking man*, I therefore indulge the hope, that you will not expect much of me, and will bear kindly with my imperfections.

It affords me great pleasure to see as many of the profession in attendance on this their first general meeting, that I am aware of that ever took place in the state of Indiana, as are here to-day. I trust it will be far from being the last time that we shall have the pleasure of meeting each other under similar circumstances. And now, allow me on the part of those Dentists in this city, who have felt an interest in this movement to bid you a cordial and hearty welcome! Gentlemen, we are *glad* to see you. The circular which all of you have seen, either copied into the Dental Journals, or in its original form, calling this convention, explains in the main its object. It will be seen then that we have met for the purpose of aiding in the accomplishment of a good work, for surely the elevation of our profession, the cultivation of friendship, and good will towards each other, mutual improvement, and the crushing out of empiricism, and as a result of all this to benefit our patients, and indeed, the community at large, may be with all propriety so considered. Then with this in view, should we not enlist with zeal, and use our best talents in so good a cause, will not all then enter into the business of the convention, with kindly feelings, and a determination to contribute what they can, for the general good, and assist heartily in pushing matters forward to a successful and satisfactory completion. It is well known to all of you, that in many of the states of this Union, our professional brethren, have gone energetically to work in the formation of societies, either state or local. The result is as you are aware, not only a pleasant acquaintance with each other, but a decided advancement in professional attainments, the beneficial effects of which even we in Indiana, cannot help but acknowledge. For example, look what our professional brethren in Ohio, are doing with their northern association, their Ohio college association, and more recently the Cincinnati association, as well as the Mississippi Valley association, which always I believe has met in Cincinnatti. Gentlemen, they have learned the advantages to be derived from these meetings, and consequently like sensible men they keep them up. But we have said nothing of the New York, Pennsylvania, Michigan, Illinois, and of other societies, which are "all alive," and making themselves useful. Should we then in Indiana, who you see are almost surrounded by institutions of this character remain inactive recipients of the benefit they confer, without making any exertions to contribute to the general fund? Or, to speak more plainly, should we remain isolated and selfish, warring upon each other with but one idea, and that a very stale one too—*money*—or should we combine, fraternize, and with our united talents help to fill the measure of dental science with something of *value* from the land of "Hoosierdom?"

We have many good practical men in Indiana. who if they would but put their shoulder to the wheel, we should not have to wait long "for the wagon," it would soon roll along well loaded with valuable facts, for the profession. It is with a view to bring out such men, promote harmony, improve each other and kick out quackery, that we have ardently desired the formation of this association. I have long entertained this feeling, have indeed been talking of it and advising with a few of my professional friends for the past few years, and on further consultation with a few friends at the American Convention, and afterwards with some of my professional brethren here, it was determined to put "the ball in motion." Gentlemen, you see that ball in motion now, we hope you will all feel bound to give it a push onward. Let us get up the long wished for perpetual motion that will work the brains and the muscles of all our Dentists in the State to a good purpose. I can very well recollect when dentistry was away "below par," when compared with the other professions, all of you must at least have noticed a change for the better each succeeding year you have been in practice. A Dentist to succeed now must be something more than a mere mountebank. To what are we to attribute these improvements? Gentlemen, it is the formation of societies similar to this we have now in view, but more particularly however to the healthful influence of our Dental Colleges and Journals. Permit me, gentlemen, to digress for a few moments to say a word or so about them. I feel that our Colleges must be sustained and I trust all of you will urge your students to pursue a regular and legitimate course of study. The formation of these societies will in my opinion eventually do more for our Colleges than anything else. They have a tendency to excite the ambition of the student, he will desire to be even with his neighbors, he will thirst for a thorough knowledge of his profession, and it is not for a moment to be doubted, where he will go to get it. I am well aware that many of the "Stars" in the profession, (if you will allow me to use this theatrical phrase,) did not have the opportunity of enjoying the advantages of our Dental Schools, many of them, indeed, being in active practice long before they were established. They have succeeded through unwavering perseverance, and their natural talents. Yet no doubt most of those men, if they had had the advantages which are within the reach of students at the present time, would have gladly availed themselves of them, in preference to taking the hard road which they must have had to travel. These very men indeed, appreciating these difficulties, established our colleges. We of this day should ever hold them in kind remembrance for it. But gentlemen we must not forget the benefits received through the medium of our periodicals, which have undoubtedly done more for the dental profession than any other one thing, they being the means by which information in a tangible form has been so widely and thoroughly diffused. They have been the means of raising many, out of "the mire and the clay." To them must be attributed the formation of these societies, and even our colleges, for those pioneers of whom I have been speaking made themselves heard through their instrumentality, in fact, they have placed dentistry where its most ardent friends thirty years ago never even dreamed it would be, viz.: on a respectable footing with the other professions. I think it is therefore the duty of each and every one who has the interest of his profession at heart to subscribe and *pay for*, at least one of our standard Dental Journals, and not content himself because he is in the occasional receipt of some advertising medium, that may have a page or two of borrowed matter in it, or if he does so content himself he must not suppose he is doing his whole duty as a member of a progressive profession like ours. No profession will progress unless its literature is encouraged, on the contrary it will retrograde. We have in ours several good journals, edited with ability, for the good of the *profession*, and not to advertise, they have done, and are yet doing good, are disseminating a vast amount of useful information and they ought to be liberally and cheerfully supported. The others can take care of themselves. It is unfair to suppose that men of ability can devote their time to the editing of a dental journal, just for the notoriety of the thing or through motives of philanthropy. They eat and wear clothes as other men, and so do their families, (and I believe they generally have them, for they seem to believe in the propagation of ideas in every conceivable form,) then when we acknowledge as we must the benefits they confer it is easy to see that we ought to give them support. But seriously, gentlemen, my reasons for calling your attention so particularly to this point are these. There is such an increase in these advertising periodicals which are scattered almost gratuitously over the office of every Dentist, that I have felt some alarm that the profession might lose sight of the advantages we derive as a profession, from our standard Journals, (from which indeed, those others receive the chief part of their mental pabulum,) and withhold their patronage, when of course they would have to wind up, and we should again be left in professional darkness, for I must again repeat that although a Society of Dentists first led to the publication of the first dental Journal, yet after that jonrnal and others were in operation, they did more towards the formation of such societies and the elevation of the profession as a mass, than anything else. And now, I trust, I shall not be understood as warring upon these journals, that are published by individuals, to extend their own business, and interests, they certainly have a most perfect right to advertise in whatever manner may seem to them best. I consequently can have no objection to their publishing these works, but I wish to impress upon the profession the necessity of liberally sustaining those works which are devoted to its interests only—that it may be enabled to keep its present fair position in the eyes of the world, as an honorable profession So gentlemen, let us lend a helping hand in all these good works, by sustaining our societies, and requiring our students to sustain our colleges, and ourselves support our dental Journals, and you will soon see quackery on the wing to a more congenial climate, for the intelligent dentist gradually but surely educates the community in which he lives, as to what they may reasonably expect of an accomplished operator. They soon learn that certain things can be successfully done if properly managed, and will consequently not be satisfied with what a quack would be able to accomplish; for in our profession as all are aware it is much easier to exhibit our skill. or our *awkwardness and ignorance*, than in most others. Our friends will excuse us if we institute a comparison with them, we being relations in as much as we belong to that ever increasing family the Doctors. Now, with them there is a much better chance for a quack than with us, "dead men" you know, "tell no tales." But with us deformed mouths, marred expressions, defective plugs, and broken jaws, tell a great many—they all most emphatically "speak for themselves," and point so uneriringly to the quack, that he cannot be mistaken. So as I remarked before, let the profession unite for the common good, and humbug dentists will have to improve or vanish. I know of no better way for us to unite, than has already been proposed, by the formation of the Indiana State Dental Association. I therefore hope, we shall be able to congratulate each other upon the successful accomplishment of this object. I can only add gentlemen, that I ardently desire to see it vigorously sustained, and trust that at our next regular meeting, we shall appear in greater numbers than at the present. But gentlemen, I will not occupy the time of the convention longer, for we have much of general interest to attend to. I have talked about matters that would seem to be foreign, from our present subject. I can only apologize by saying, the intention was good. I thank you for your attention.

Paper read before the Indiana State Dental Association from DR. W. H. SHADOAN.

Mr. President, I desire in as brief a manner as practicable to give my process of the treatment of exposed nerves of the teeth.

We will take if please the first Bicuspide of the right side of the superior maxilla. The dentine is decayed so as to leave the nerve exposed but not injured. It seems to be in a healthy state, so far as the indications show. The first thing to be done is to carefully remove the diseased bone surrounding the nerve, and also all the diseased parts of the tooth in question. After which, I take a shot (a shot which has been kept in a dry place is preferred,) beat it out thin, say about No. 30 American plate gage. Cut a piece as large as will cover the nerve, and overlap the dentine sufficiently to form a hold. I then carefully lay the cap so formed, on the nerve, carefully press it to the tooth around the nerve. And then proceed to fill with gold foil. In all such cases I use what I call block filling. My mode of preparing my blocks are by folding my gold so as to make it four double, cut the piece into three strips, one of which is as wide as both the others. I then roll them together very loosely, and cut off my blocks. I take the blocks of the smaller roll, and commence by laying one on one side of my cap so as to overlap it about one eighth of the size of the block, then treat the opposite side in the same way. Then begin on the ends (as we will call them) lay one of your blocks on the posterior part of the cavity, let it lap upon the two former blocks as on the cap, press it sufficiently hard to mahe it retain its position. Treat the anterior block as the posterior. Then take a block of the larger roll, and lay on the center cavity, and condense slightly. This as you see has formed an arch over the cap, so that the remainder of the process of manipulation will not affect the nerve by pressure. After it is thus far successfully filled you will proceed by filling around the arch. Always pressing at right angles with the bottom of your cavity. By carefully following this rule you will find that your filling will always incline towards the walls of the cavity, and the consequence will be the plug will not want to dislodge itself while you are building it up. Besides this arch that is formed over the cap assisted by the cap keeps the nerve from being injured by under pressure. I find that I can make as hard a filling in this way as though the nerve were not exposed.

In case the nerve is diseased your success will depend upon your diagnosis. If nothing but inflammation has set in you can remove that by treating your patient constitutionally. If my patient needs it, I give a cathartic and apply a little creosotum, or tannin, I almost always use tannin, or sulphate of zinc, and in case the tooth is very sore, I will take tannin and morphia in equal parts, and find that it is just as good treatment as I can adopt.

In case the destruction of the nerve is necessary, I accomplish that by the application of metallic arsenic and creosote, which in nine cases out of ten is successful; if it should fail, I then use the actual cautery, such as nitrate of silver, or most generally nitric acid, and in the event of their all failing, I then extract the nerve in to-to. I then carefully prepare my nerve cavity, and fill with pure gold, after which I hear no complaint. I find the nerves of teeth diseased when there is no decay in the teeth. In such case I use the drill freely until I have formed a cavity sufficiently large to admit of my operation, then I extract the nerve and syringe the cavity well with creosote, tinct. opii, chloroform and acconite. Then I plug the cavity, and hear no more complaint from that source.

DISCUSSIONS OF SUBJECTS BEFORE THE INDIANA STATE ASSOCIATION.

SUBJECT 1ST—BEST MEANS OF PRESERVING THE TEETH.

Dr. HUNT said, when the teeth were in a healthy condition he would recommend care, and frequent use of the brush and soap. When teeth are diseased, and require filling, he uses gold, and has been successful with the most simple treatment. With children he would recommend the frequent use of a napkin to create gentle friction.

Dr. Moore, (Lafayette) would prefer to listen to older members on the subject. He advised cleanliness, and thinks much depends on the general health of the patient. Thinks in many cases *caries* are hereditary. In peculiar reddish decay, has found that filling would not arrest it. Is of opinion that teeth decay more rapid during the period of pregnancy.

Dr. Nicholls asked, in cases of acid secretions, would it not be proper to correct? It might be done with carb. soda, lime, &c., to improve the glandular system; such cases take time. In relation to *caries:* has only discovered three kinds, and being white caries, the most difficult to arrest. He related the experience of an old practitioner, who, after removing all decay, cut and drilled away the sound bone beyond decay; and thus had no more difficulty in preserving than other kinds of caries. He recommended the use of a soft brush; a hard brush, he thought, would wear the enamel into furrows. Nature would not repair the damage done by a hard brush. Recommended cold water, and no dentifrice. He doubted if caries after occurred but from irregularity—teeth being crowded. Mechanical pressure made the enamel thin between the teeth, which are more liable to decay.

Dr. Hurd (Attica) considered cleanliness of the highest importance, no matter how attained. Related experience with some healthy teeth, well developed; the spaces between the molar teeth admitted lodgment of food, which caused decay, before attention was paid to removal, &c. The next case was that of a child. Gave personal and diligent care to cleansing the desiduous teeth, and filled as decay presented itself; they were at present in good condition, and thinks they have been preserved longer than they otherwise could be. He hoped all would engage to throw light to aid each other to benefit patients.

Dr. Smith (Terre Haute) said, that in considering the subject it was necessary to enquire the cause of decay. He would say, want of perfect cleanliness was one of the causes. He thought when the chemical agents were brought to bear upon the surface of the tooth, in nine out of ten cases the causes are external, or brought about by the influence of acids causing receding of the gum where the tooth is more easily acted upon. He differed from Dr. Nicholls in the use of a brush, but would not use brickbats. Thought the teeth could not be injured by the use of a stiff brush and good dentifrice.

Dr. **Hood** (Greensburgh) said he was satisfied that caries occurs from other than external causes. He referred to cases on cutting edges, where the orifice was very small, when on opening with the excavator, he was astonished at the extent of decay beneath. He thought it resulted from defect in elements which constitute the teeth, and from deviation from some natural laws.

Dr. **Perine** (N. Y.), on being called upon, said, he had come like a dry sponge, and expected to absorb much, and he was willing to be squeezed. This subject carried them back to the question: How shall we marry? How shall we rear our children? We must go back to the mother from the moment of conception. He was favorably impressed with the use of phosphate of lime, and earnestly called attention to its administration. If decay occurred, the teeth should be promptly filled. Cleanliness, of course, was of the utmost importance.

Dr. **North** (Indianapolis) concurred with the suggestions made in regard to preservation of the teeth. Some diversity of opinion appears. Dr. Perine adheres to the doctrine of Harris, and he inclined to the same. He was aware that a more modern argument was advocated, viz.: that the causes of decay are entirely external. He was not satisfied which; whether external or hereditary. He would like to have the matter determined. Recommended frequent use of brush, even at a very early age.

Dr. **Nichols** remarked, in reference to decay—large cavities with small orifices—Might it not occur by teeth being worn down, until cold is carried to the pulp? Would not this wearing finally go on until the nerve was destroyed? In such the dry kind of decay is discovered; nature seeks to throw off the dead substance. Dr. Perine, he said, had covered the ground. That diseases of the teeth are in some cases constitutional there can be no doubt.

SECOND DAY—MORNING SESSION.

Subject 2d—TREATMENT OF EXPOSED NERVES.

Dr. **Smith** remarked on the importance of the subject. He thought a large proportion of teeth coming before them with exposed nerves could be saved.

Dr. **North** said he had given much attention to the subject. He cleanses the cavity free from all carious matter, guarding the nerve from wound or injury, and uses prepared anodynes, antiseptics, &c., to bring about health to the parts. Next prepares cavity for permanent filling by caps with confidence; he cannot leave too much space under cap. He succeeds in eight cases out of ten.

Dr. **Hunt** said he would like the subject discussed by question and answer, to elicit the experience of all. He has had poor success in capping exposed nerves; has lost about the proportion saved by Dr. North; prefers to remove if the nerve has been wounded. He enquired of Dr. North, when the nerve had been capped, and the filling removed, if any deposit of bone or dentine was found?

Dr. **North** said he had not had occasion recently to examine.

Dr. **Hunt** said he had examined many such cases, and found no osseous deposit when the nerve had been wounded, but frequently the death of the nerve.

Dr. **Hood** said he had used a variety of preparations in the treatment of exposed nerve, and a variety of articles for capping nerves —bone, lead, &c. His patients were not willing to pay for the treatment of filling roots.. In many cases patients were satisfied for one or two years with nerves capped, but not much longer. Had found no bony deposit under caps when teeth were removed, contrary to expectation, but nerves dead, and frequently slight decay in progress.

Dr. **Hunt** asked if he treated all patients alike who applied?

Dr. **Hood** replied, he discriminated of course. In some cases would not treat; preferred not to do so.

Dr. **Lupton** (Shelbyville) thought it important to report failures, as they learned more by them than from success. He had more trouble with young patients, and more failures. He found it difficult in the country to get his patients to visit him promptly. Destroys nerves with arsenic, morphene, &c.

Dr. **North** had two cases to report of failure. 1st, Nerve capped —was obliged to remove filling; treated, destroyed, and filled fang, successfully. The second was that of a young lady, sixteen years of age. External caries slight. On opening and excavating cavity, found nerve exposed; capped and filled with amalgam; it became painful. He then removed the filling, and found the cap too small, the filling pressing upon the nerve. After treatment recapped and filled, but again failed. He again removed the plug, and destroyed the nerve, and is now preparing to fill the root. He never destroys nerves where he can cap and fill.

Dr. Saterwhite (Franklin) asked members what they did when the cavity was so shaped, and the nerve so exposed, that it could not be protected by a cap?

Dr. Johnston replied that he had used with much satisfaction Plaster of Paris as a cap, and for such cases thought it would answer a good purpose.

Dr. Hurd thought much depended on the health of the patient. He could not treat all cases alike. Has had success, and many failures, in capping nerves. Continues to treat the same, and is not disheartened by failures. He was successful in one-half his cases, and should encourage to greater efforts. He cited some interesting cases.

Dr. Smith asked what proportion of those cases in which abscess finally occurred could be considered successful?

Dr. Hood thought if the apparently successful cases of capped nerves were examined, the majority would be found dead.

Dr. North thought that few of those cases were successful; they were generally failures. Uses tannin and creosote, after using chloroform, with much satisfaction.

Dr Smith remarked he did not think vitality could be preserved in evey case. In front teeth did not hesitate to treat and cap, but in back teeth trouble generally ensues. For inflamed nerves he uses caustic, &c.

Dr. Hurd asked if it would be well to attempt treating a nerve for a patient at a distance?

Dr. Smith said he would not hesitate.

Dr. Hurd did not consider distance an objection. He thought the preservation of a tooth worth several trips of twenty to fifty miles.

Dr. North concurred, but left the matter to the discretiou of the patient He generally acted according to the circumstances of the patient.

Dr. Moore treated healthy nerves only. Uses chlo. zinc, and treats but few, and those of the most favorable cases. Would not allow an ulcerated tooth to remain in the mouth.

Dr. Johnston thought much of chlo. zinc; though it gave acute pain on application, it lasted but for a moment. He would not remove a filling if the abscess was small, but made an incision over the apex of the root, and treated accordingly, if the root was filled. He thinks the zinc has no equal in cases of inflamed dentine.

Dr. Moore thought it advisable to fill a root immediately after the removal of the nerve. Uses creosote, morphine, &c.

Dr. Broffett (Ohio) here made some beautiful and appropriate remarks on thorough physiological and hygeinic education and examinations, adding a physiological dissertation on the subject, and remarks, after which the discussion closed.

Subject 3d—THE BEST MEANS TO CORRECT IRREGULARITY OF THE TEETH.

Dr. Moore thought this a very important subject. Thought the earlier application was made to the Dentist the better. Described a very interesting case (which we were unable to report, but expect he will furnish to the Journal).

Dr. Dills said he liked much the inclined plane in many cases, and recommended cheoplastic as a base. He described two interesting cases in which he had used it satisfactorily.

Dr. Johnson, during the reporter's absence, made some interesting remarks on the subject, which were listened to with interest, and presented casts of an interesting and successful case of irregularity (which we hope to have the pleasure of presenting to the readers of the Journal).

Subject 4th—MECHANICAL DENTISTRY.

Dr. Satterwhite said for full cases he preferred plaster for impressions; for partial, wax without a cap. He takes the female cast first, direct from plaster model, by placing plaster model inverted, within a rim, and pours metal on it.

Dr. Hunt was in the habit of taking male cast first.

Dr. Moore uses a compound of tin, bismuth and lead for the female cast, after a plan recommended by Dr. Allen.

Dr. Perine said for full cases he preferred plaster; for partial cases he was satisfied with wax impressions. For partial atmospheric cases he has used a cap struck up of zinc plate, using thin sheet wax quite warm. He prefers for those cases if the gums are healthy and hard, a cut chamber, or, in other words, a double plate; making the chamber only the thickness of the plate. For full dentures he preters the continuous gum; has used the continuous gum blocks for partial cases with satisfaction. For full dentines, the continuous gum and the rubber were the principal kinds used in New-York. He used in some cases partial blocks on gold plate with satisfaction.

Dr. JOHNSTON said he had been using the cut chamber satisfactorily; could not say if it was Cleveland's, Gilbert's, or whose it was; it was the same principle as described by Dr Fuller at the Convention in Cincinnati.

Dr. HOOD had tried many plans, and thought best in no case to let the plate touch the natural teeth.

Dr. NICHOLLS said he regulated the size and depth of cavity plates according to circumstances.

Dr. HUNT said he also used the cut chamber. First received the idea from Dr. W. H. Hunter, of Cincinnati, who uses double plates; the chamber formed by cutting a hole out of the inside plates, and filling the space between the two plates with continuous gum material.

AFTERNOON SESSION.

On call of Dr. HUNT,

Dr. PERINE made some remarks on cleopastic. He said where he came from "the game was played out;" few used it, except for temporary purposes. If he were to use any metal more base than silver, he would prefer pure tin, as recommended by Dr. Geo. E. Hawes some years since, who had been robbed of the credit to which he was entitled. He further said he had seen the work in many mouths, which in some was much discolored and corroded, and in others clean and bright.

Dr. HURD remarked he thought at one time he would try it; he called at the New-York Teeth Manufacturing Company to test the matter; offered $20 for the privilege to test it, and if it did not come up to representations the money to be refunded, which was refused; called upon Dr. McDonnell, who thought it was not fully tested, and expected improvements. He said he had not used it, and he did not think he should. Did not like the course pursued with it. Did not like patents in the profession, any how.

SUBJECT 5TH—FILLING TEETH.

Dr. **Hunt** wished to hear from those who had used adhesive gold foil.

Dr. **Satterwhite** said he had used crystal gold foil, and liked it much; but thought not so much could be put in a cavity.

Dr. **Perine** said he was a "blab," especially when a subject was presented that he had made a "hobby," as he had in the use of crystal foil for filling teeth. He said the first thing with him was to make his patients think he was "some punkins" of a Dentist, and he was vain enough to think there were those in New-York that thought he "was some." He selects a central incisor, and illustrates his operation on the President, as his patient. He first treats the tooth, which he finds considerably diseased; injects the root freely with creosote, and uses nitrate of silver; takes sufficient time in treating, which, when done, two out of three, he thinks, can be saved. Fills root with non-adhesive gold foil rolled into cylinders on fine brush; carried on the brush to apex of root; then with small untempered instruments made for the purpose, after the fashion of the whalebone plugger used by Dr. J. S. Clark, proceeds as he illustrated by cut in the *New-York Dental Journal.* Sometimes fills upper roots with Plaster of Paris, injected in the root, absorbing and drying the moisture with bulbous paper and a jet of warm air thrown upon it. If the tooth becomes inflamed, treats with creosote; sometimes applies a leech. When nerve is exposed accidentally, prefers to treat mechanically, when he can get the patient to submit.

EVENING SESSION.

Miscellaneous matters were discussed with much interest.

Dr. **Johnston** exhibited an interesting case of irregularity.

Dr. **Perine** presented a beautiful case of continuous gum teeth after the style of work of Dr. B. Franklin, New-York.

Dr. **Smith** exhibited an interesting specimen where exostosis had been developed.

Dr. **Hunt** related interesting cases of ossification, his treatment and success.

Dr. **Nicholls** related cases of neuralgia, his treatment and successful results.

Dr. **Toland** presented a neat specimen of vulcanized rubber partial case. He stated that the work was about being introduced into Cincinnati.

[*We desire to express our acknowledgements to Dr. John T. Toland for aid in the preparation of the above Report. We regret not having received it in time for our last number.*—Eds.]

ON THE DEVELOPMENT AND STRUCTURE OF THE TEETH OF MAMMIFERA.

BY DR. ADOLPH HANNOVER, OF COPENHAGEN.

(TRANSLATED BY T. WHARTON JONES, F.R.S.)

PART II.—HISTOLOGY OF THE TEETH OF THE MAMMIFERA.

(*Continued.*)

True Haversian canals of the same nature as in the cement, do not occur in the dentine. There are, however, in the middle of the dentine, canals which much resemble the Haversian canals, but which have probably a different origin. They are met, for example, in the ox, in the form of round or oval, though more frequently irregular sections, filled with a yellow granular mass, or they appear black and opaque when extraneous matter has penetrated them in grinding. Dr. Hannover believes them to be remains of vessels. The canals mentioned by Owen and Tomes, in the inner part of the dentine of several rodents, should not be looked upon, Dr. Hannover thinks, as Haversian canals; especially as, according to Tomes, they run parallel with the dentine tubes, and do not anartomose, but branches of the dentine tubes open into them. It is therefore improper to speak of the vascularity of dentine in the same sense as the vascularity of bone is spoken of. The admission of Haversian canals in the dentine is founded only on the incorrect comparison of the dentine with bone, and the process of dentification with that of ossification; therefore, also, the name of *osteo-dentine*, which Owen has given to the central clear substance, with free and irregugularly-disposed dentine tubes, in several mammifera, is objectionable.

As in the interior of the dentine, canals occur which have to be taken as Haversian canals, so there also occur in it forms which are very similar to bone corpuscles, and which have been mistaken for them. They occur in the ox and bear, but are most frequent in cetaceans. Dr. Hannover believes them to be of the same nature as the pulp and pulp-cavity.

A similar origin, though a somewhat different structure, most probably belongs to the various forms which occur in the so-called granular substance (*Pondingue*, Cuvier). This substance is of very general occurrence in the interior of the teeth of the sea mammifera; in other animals it is only exceptionally present. In no respect, Dr. Hannover says, can the structure of the granular substance be composed, as Retzius thinks it may, with the structure of the cylindrical bones. Both the anatomical and histological structure of the substance in question, Dr. Hannover insists, is opposed to any resemblance with bone.

When the tooth does not remain open throughout the whole period of life, the point of the root is gradually closed by the external cement; the growth of the dentine is ended, and blood-vessels and nerves can no longer penetrate the pulp-cavity. In some teeth a cavity is still found filled with the remains of the dentine germ; but in most cases the whole germ is dentified. The consequence of arrested nourishment is especially evident in the point of the root. Not only with the microscope, but also with the naked eye, it is frequently seen that the dentine and the cement are not sharply separated, as in the other part of the tooth; but that the transition between the two takes place in an unmarked manner. Therefore the irregularly-disposed dentine tubes mingle with bone corpuscles, without, however, this exceptional simultaneous presence being anything more than juxta-position, or accidental mingling. The ramifications of the dentine tubes, which are here often in extraordinary number, do not pass into the ramifications of the bone corpuscles. Sometimes the dentine tubes, sometimes the bone corpuscles, have the predominance. When the cement has been formed in great masses around the point of the root, the Haversian canals characteristic of this substance are also met with. The granular substance likewise, together with its irregular earthy deposits, may be found mingled in the point of the root with the cement; and here the best opportunity is presented of observing the distinction between these earthy deposits and the bone corpuscles. Lastly, irregular smaller and larger cavities are met with, which are owing partly to an incomplete dentification, partly to the remains of blood-vessels, but which are not to be mistaken for Haversian canals.

2.—*Cement.*

In the history of the development of the tooth, it has been shown that each *dentine germ* is originally surrounded by a *cement germ*, as is separated from it in the crown by the *enamel germ* and the *membrana intermedia*, but in the root by the *membrana intermedia* only. When the different dental substances have acquired their permanent form, the cement can, therefore, never be in immediate contact with the dentine; it is only at the point of the root, as has just been shown, that a mingling of the two substances takes place. Towards the enamel the cement is distinctly limited; it never mingles with the enamel columns, and easily separates from them completely, whilst the connexion with the dentine in the root is very firm.

Cement exists around every root, but not around every crown, for in teeth with conical dentine germ, the cement germ in general absorbs round the crown, and does not ossify. The quantity of cement formed around the root of the conical dentine germ is very variable. Whilst the cement around the root of the teeth of man and dog forms only a thin layer, its quantity in the dolphin is very considerable, and in the physister almost as great as that of the dentine; as in these animals the crown of the tooth is very small, and soon worn away, it may with truth be said of them that they masticate with the roots of the teeth. In teeth with notched dentine germ, the cement, which is considerable in quantity, first surrounds the enamel of the crown, and then the dentine of the root. In teeth with a cup-shaped dentine germ, the outer cement exists only in small quantity, the inner predominates, and is distinguished, as before mentioned, from the outer by its yellow color and opacity, the greater number and size of the less-branched bone corpuscles, and the wide spread Haversian canals. The inner cement, in particular, resembles still more closely true bony substance than the outer. In teeth with foliated dentine germs, the quantity of cement between the leaflets is considerable; in the periphery. small. Although the cement is not everywhere of the same thickness, still its quantity, on the whole, increases in all teeth from above dowawards.

The cement, which is opaque, is softer than the dentine, and is therefore always most worn away on the masticating surface ; on the contrary, it is harder than bone. Its color is dull white, grey, or yellowish, and at the same time speckled. In other respects the structure of the cement in general is similar to that of osseous substance, and both are distinguished by bone corpuscles imbedded in a ground substance, and by Haversian canals ; the bone corpuscles in bone are, however, usually more numerous, larger, and darker ; the arrangement and number of the Haversian canals, and the ground substance are also different.

As the cement does not lie in immediate contact with the dentine, there can be no communication of the ramifications of the bone corpuscles of the former with the ramifications of the tubes of the latter ; in the dentine itself there are no bone corpuscles, as has been above insisted on.

Allhough the form of the bone corpuscles of the cement is very irregular, still their direction is, in general, such that their longest diameter is perpendicular to the length of the tooth. Around the Haversian canals the bone corpuscles lie, sometimes in as definite order, sometimes in concentric series, as in the bones ; this is the case, for example, in the inner cement of the ox.

The number of bone corpuscles corresponds to the quantity of cement. They are entirely absent where the cement is thin, as in the neighbourhood of the crown of teeth with conical dentine gums—e.g. in man, dog, trichechus ; in man, the part of the cement neath the crown is quite clear and very brittle, so that fissures occur in it, as in the enamel.

The ground substance, in which the bone corpuscles are imbedded is, in most cases, clear and transparent, but not so much so as the dentine. In other cases it is granular. In many it has the appearance as if stratified.

The Haversian canals of the cement do not completely agree with those of bone, in respect to their structure, number, and arrangement. They appear to have walls distinct from the rest of the cement. They serve for the passage of bloodvessels, which penetrate from without inwards. Where the cement forms only a thin layer, they are wholly wanting in all animals. In man, Haversian canals are met with only at the point of the root where the cement is in great quantity. In the horse and ruminants of the cement, especially the inner, is pervaded by numerous and large Haversian canals. The opening of the ramifications of the bone corpuscles into the canals, Dr. Hannover has not been able to observe, such as is stated to be the case by Owen in the Megatherium, in which the canals at the same time anastomose with each other.

The irregular cavities often seen in the point of the root abovementioned in the description of the dentine, must not be confounded with Haversian canals. These cavities, first observed by Czermak in human teeth, are branched, thick, varicose canals which pervade the cement in different directions, penetrate it from without inwards, and reach as far as the dentine by their blind end. They appear to be abnormal.

Different also from Haversian canals are fine passages which occur even in thin layers of cement, and have a distinct resemblance to dentine tubes, but which are seldom or never branched, and usually run transversely. The nature of these passages is still unknown. According to Tomes and Kolliken they are frequently connected with the dentine tubes and bone-corpuscles, That they are connected with the dentine tubes, Dr. Hannover most decidedly denies; because the dentine is everywhere separated from the cement by the granular *stratum intermedium*. As to their connexion with the bone-corpuscles, Dr. Hannover has observed this only in the dugong; in all other animals he has expressly remarked that they have no communication with the bone-corpuscles.

3. *Enamel.*

The enamel characterizes the crown of the tooth. It is always interposed between the dentine and the *stratum intermedium*, outside which is the cement; where, however, the cement does not ossify, the enamel is covered only by the *membrana intermedia*, which then appears as the so-called enamel cuticle. This is the case in teeth with conical dentine germs; and Owen has probably confounded the *membrana intermedia* with the cement, when he speaks of the occurrence of a very thin layer of cement on the crown of the tooth in man and the ape. The enamel cuticle is soon worn away after the crown has broken through the gum, so that the enamel is laid bare. The enamel is in general thickest above, especially on the masticating surface; below it is thinner, and ends with a free border, which is frequently covered with a thin layer of cement.

Although it cannot be said, with Owen, that the enamel always is the least constant substance of the tooth, because every tooth possesses a crown, still Dr. Hannover remarks that the normal relations are frequently changed at an early period by the wearing away of the crown. Thus very commonly the teeth of trichechus, dolphins, edentata, the incisors of the elephant, &c., are found without enamel —*i. e.*, the crown, being so small, is soon worn away, and only the root remains; in the teeth of the young animals, however, the enamel of the crown is distinct enough.

The enamel is composed of columns developed from the enamel cells. The typical form of these columns appears to be six-sided. This form is, however, usually chauged by the mutual pressure of the columns into a polygonal or flattened one. The thickness of the columns is variable. The columns present more or less distinct transverse markings, having some resemblance to those of muscular fibres. The cause of these markings lies in the calcification of each individual cell taking place in strata; hence the appearance is often more distinct in young than in old animals.

The direction of the enamel columns is either perfectly straight, or bent, or slightly tortuous. In regard to this, however, there is no definite rule; for in the corresponding tooth of the same order of animals, or of a different order, sometimes one, sometimes another direction of the enamel columns is observed. In the human tooth, for example, the columns are found sometimes straight, sometimes bent, sometimes wavy, or intercrossing. As to the cause of this difference—the origin of the straight or wavy course in one direction it is easy to explain, but not so the crossing of straight or spiral columns.

Between the enamel and dentine there is no special membrane. The enamel columns directly touch the dentine. Dr. Hannover also denies that there are any such depressions on the suface of the dentine for receiving the end of the enamel columns, as have been supposed by Lessing and Owen. In all the teeth of different animals examined by Dr. Hannover, he found the limit between the enamel and the dentine always sharply defined, and formed of a single dark line. Owen mentions a layer of cells between the dentine and enamel, in regard to which Dr. Hannover remarks that it is not quite clear to him what could have deceived that observer into this notion, unless it was the globular formation of the intertubular substance of the dentine, which in the ox, for example, may, like small protuberances, project into the enamel.

4. *Stratum Intermedium.*

This forms in the crown the limit between the enamel and the cement; and in the root, the limit between the dentine and the cement. It is the metamorphosed *membrana intermedia*, which during the development of the tooth is closely connected by its outer surface with the cement germ, and on the inner has attached to it the nucleated ends of the enamel cells.

The structure in question attains its permanent form after the enamel cells have become completely calcified in their entire length; as it is situated between the enamel cells and the cement, the ossification of the cartilaginous cement germ can commence only after the complete development of the *membrana intermedia*. It, therefore, always separates in the crown the enamel, in the root the dentine, from the cement. But as the cement germ round the crown of teeth with conical dentine germs does not in general ossify, but becomes aborted, so the *membrana intermedia* lies free on the surface of such crowns, and forms on the as yet unworn teeth the so-called enamel cuticle above noticed. This name, (which was given to it by Kolliker,) Dr. Hannover observes, the membrane merits neither by its origin, nor its structure, nor its nature. For the *membrana intermedia* does not belong exclusively to the enamel, nor does it lie superficially like a cuticle; whilst its structure as before shown, has nothing in common with that of epidermis.

Erdl first demonstrated this membrane by means of the application of diluted hydrochloric acid; according to him it has an epithelium-like aspect, and appears to be composed of small cells. By Owen it was probably mistaken for a thin layer of cement. Nasmyth supposed that he was able to trace it not only on the outer surface of the enamel of the human tooth, but also on the outer surface of the root; he called it "the persistent dental capsule;" a name, Dr. Hannover observes, which might well be adopted—as the *membrana intermedia* does indeed represent a sac-like structure in the dental sac, and can be also still demonstrated in the fully-formed tooth. As, however, the membrane, though it covers the surface of the enamel, does not cover the outer surface of the root, as Nasmyth supposed, but is situated between the cement and the dentine of the root, Dr. Hannover does not consider it proper to retain the name of "persistent dental capsule," but proposes instead that of *stratum intermedium.*

What becomes of the *membrana intermedia* in the crown beween the enamel and the cement, Dr. Hannover has not clearly made out. The limit between those substances is formed of a dark, well-defined, but irregular line, sometimes double. There is no interspace between the enamel and the cement, only where they have split from each other—which readily takes place in drying or in making the preparation—there is formed an empty space, which is often filled with foreign matter. It thus appears that the *membrana intermedia* in the crown, which is so evident in the early stage, is in the completely-formed tooth no longer to be observed.

It is otherwise with the *membrana intermedia* in the root between the dentine and the cement. Here it is converted into a particular stratum, having the aspect of a clear line of variable breadth but always narrower than the *membrana intermedia*, whence the *stratum intermedium* has arisen and opposes any communication of the dentine tubes with the ramifications of the bone corpuscles of the cement.

The *stratum* usually presents itself as a clear streak running along the whole length of the root; a frequent variation in its aspect, however, is occasioned by the deposition in it of finely or coarsely granular earthy matter. These masses are usually collected towards the dentine in greater quantity, whilst the limit towards the cement is more defined. At the same time, the commencement of the dentine tubes is concealed among them. Such an appearance has especially occasioned the already often-mentioned erroneous supposition that dentine tubes pass into bone-corpuscles, to which those masses very often have a great resemblance. The pefectly clear, or the granular and dark aspect of the *stratum intermedium* may be observed in the same tooth; much depends on the thickness of the preparation; and it is especially in thick preparations that the shapeless earthy masses of the *stratum intermedium* are most readily mistaken for bone corpuscles. This, according to Dr. Hannover's experience, was the case with Retzius' preparation for the teeth.

From Dr. Hannover's observations it is seen that the *stratum intermedium* may present itself with a very variable aspect; but it always serves for the separation of the dentine from the cement. Only in the point of the root it is frequently indistinct, and there arises that previously-mentioned mingling of dentine and cement, but which is not accompanied by a real communication of the dentine tubes and the ramifications of the bone corpuscles.

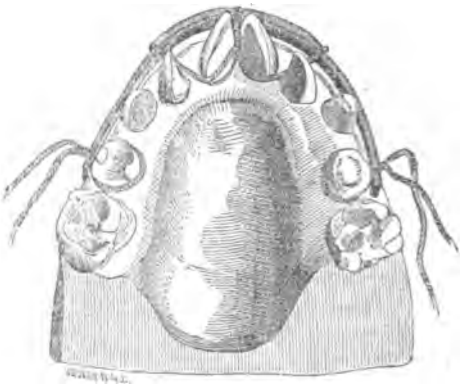
The *stratum intermedium* has been seen by some previous observers, but its nature not recognised, because the *membrana intermedia*, whence the stratum arises, had been overlooked.

ON THE TREATMENT OF PARTICULAR CLASSES OF IRREGULARITIES.

BY DR. NORMAN W. KINGSLEY, N. Y.

I despise, as much as any one, *hobbies;* but no man ever made any progress beyond what was laid down in the books as orthodox, who did not, in the opinion of some, ride a hobby. Consider then, for the moment, regulating teeth as my hobby.

The increased interest which this excites in the profession, induces me to comply with your request to send you the following article on "The Treatment of Particular Classes of Irregularities." Commencing with the Central Incisor of the upper jaw, the most common form of disarrangement is, when one central falls within the lower jaw, and is held thus out of its arch at every occlusion of the jaws. If the patient is young, say under twelve, the treatment is simple, and the progress rapid. A gold band, of half round wire, bent to the curve of the jaw, placed on its labial surface, its ends supported by tying with floss silk ligatures to some of the back teeth, and a ring, cut from small India rubber tubing, is all the fixture necessary. If the temporary molars are in, and tolerably firm, the ends of the gold band may be tied to them; no harm can follow, as there is no strain upon them. Before fastening, slip the rubber ring on the band, and when the band is secure in its place, bring the ring opposite the offending tooth, and stretch it over it. No blocks are necessary to keep the jaws apart. No matter how much the lower teeth lap over it—unless the jaws are bound together—the action of the gum elastic will bring it into line within a few days, and ordinarily with very little soreness. The rubber rings ought to be changed often, as they lose their elasticity. When once lapping outside the lower jaw, there is no danger of their getting in again.



Another form of irregularity of the Centrals is, when they stand obliquely to the arch, their labial surface describing two sides of a triangle; or, as may happen, one or more standing directly across the jaw, at a right angle with it. The treatment, as usually given, is a complicated one. Sometimes a fruitless effort to fit a gold collar so firmly to the tooth that a short lever soldered at a right angle to it will, by the aid of elastic fastened to the end of the lever, pull it around; a very pretty way of accomplishing the object in theory; but unfortunately, the practice in a majority of instances (owing to the difficulty of making the collar hold) does not sustain the theory; besides, even if it could readily be made to hold, the fixture is a cumbersome thing. Another splendid piece of steam-engine machinery to attain the same object, I saw in the mouth of a little miss, between nine and ten years of age, a few days since. A Central Incisor was slightly twisted from its true position; a gold plate was fitted across the entire palatine arch, passing over and covering the crowns of the molars; a gold bar was soldered to the plate on the labial surface of the molars, passing around in front, resting on the outer corner of the offending central, and farther on soldered to the palate plate on the opposite side of the jaw from where it started ; so much to keep one corner of the tooth where it belonged. Another plate was fitted over the lower jaw, with an inclined plane to strike the opposite corner of the tooth, and twist it into place—beautifully—only, after wearing it between two and three months, it didn't. The author of this wonderful piece of mechanism has, within a couple of years, obtained a patent for his great improvements in Dentistry, in making ——— never mind ; spare him.

The accompanying engraving will illustrate a much more simple and effectual method. It represents the jaw of a Miss, 13 years of age ; the irregularitity of the incisors successfully corrected by the following treatment. Fasten a gold bar as before described, file notches in it as follows, one on each side against the space between the Centrals, ditto against the space next the laterals ; before tying the band in situ, take two gum elastic rings tie them to the central notches, stretch one of them one way to the notch and tie it, the other in a contrary direction, and fasten it.

Secure the bar in its place and carry the Elastic bands over the teeth. The engraving will show the triangular form the rubber band is compelled to take. Common sense will explain its action—a month with a young patient will accomplish the result. I care not how much trusted a Central is in the jaw, so surely as India Rubber is elastic so certain is success. Essentially the same treatment is required when one Central in addition to standiug obliquely, laps over the other Central ; to bring it down into line, or any other tooth that stands too prominent, instead of floss silk ligatures at the end of the gold bar, use elastic rings tied to notches—for instance, file the notch from one-sixth to one-eighth of an inch, formed of the first molar, on each side, fasten the rings to the bar and stretch them back and over the molar. The effect will be a constant backward strain on the gold band which resting on the too prominent teeth will force them down into line. The following treatment is peculiarly applicable to the lateral incisors of either jaw, and consists of ligatures and gum elastic only. The usual manifestation is the dropping of the laterals within the lower ones. Wax a strong silk ligature around the first molar and the bicuspids back and forth, so that the three may be bound together, and may form an anchorage ; treat both sides in the same manner. On one side fasten an elastic ring by the ends of the silk, close up the bicuspid.

(With a little application this arrangement can be understood without the aid of an illustration). Take the end of the ligature from the other side and pass outside of the eye-tooth, around under the lateral, over the centrals, under the lateral, over the eye-tooth, and through the elastic. Carry the ligature back the same way it came to the starting point, draw it up, giving it as much tension as it will seem to bear, or as circumstances may dictate, and fasten. The three teeth on each side the jaw, will not be affected by it The Centrals and eye-teeth will not be drawn in because of the almost impossibility of contracting the arch. The only apparent action will be upon the laterals, which will be moved directly forward. Another manifestation not uncommon, is the eye-tooth closing within the lower jaw.

It can be restored with a band and elastic, or a wooden brace across the mouth. The only difficulty is owing to its peculiarly inclined conformation upon its lingual surface. A ligature or a brace will be very apt to slip off. In such a case the following is *certain* ; with a very small diamond pointed drill : Make a hole high up on the swell of the tooth on the inside about one line deep. Fit a piece of condensed hickory for a plug—*with the end standing out sufficiently long to catch and hold the brace or ligature.*

In the end plug with gold. Of two evils choose the leest—it is better to drill the hole and restore the tooth than submit to the deformity.

My time and your space forbid my going further into details in this article. A variation of these and other well known plans will suggest themselves to any one with any faculty of invention, as adapted to peculiar cases.

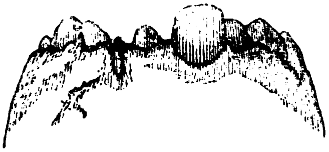
Above all, let me urge the profession in all their contrivances, to study simplicity. The simplest method, other things being equal is always the best.

Don't make the mouth an exhibition room for McCormick's reapers or Hoe's Printing Presses !

The following is the first of a series of original articles on kindred subjects, written for the N. Y. Dental Journal, *which we shall present to our readers in each succeeding issue.*—Eds.

CASES OF IRREGULARITY SUCCESSFULLY TREATED BY DR. W. DARYMPLE OF NEW-YORK.

The patient was a boy of about twelve years of age, the son of a Capt. S—— of this city, who had the superior left central incisor cut through in a transverse position; also the left superior lateral curved toward the palatine portion of the mouth. In connection with this irregularity was a little freak of nature, in the shape of a third tooth of a conical form, situated directly between the incisors. [See Cut No. 1.]



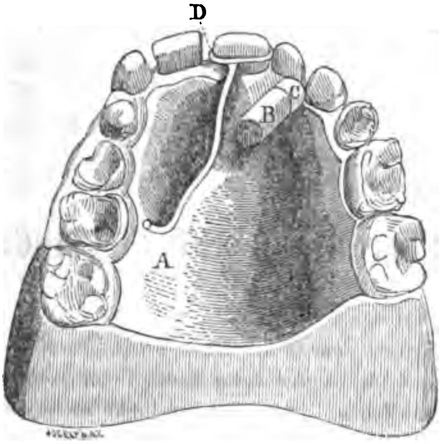
My first attempt to correct the irregularity described above, commenced by extracting the supernumerary tooth; which when extracted proved to be an imperfectly developed, conical shaped tooth.

After the lapse of a few weeks, I took an impression of the mouth, and struck up a plate fitting accurately to the posterior surface of all the teeth and clasped to the temporary molars. By this time the lateral incisor crowding inwards, and contracting the arch, we soldered to the plate immediately opposite this offender a little socket [See Cut No. II] with the palatine end closed. In this socket was placed a plug of hickory wood [B], which was lengthened from time to time, fitted so as to press firmly upon the tooth, which operation had the effect in a few weeks of giving me room to operate upon the transverse central. I now fitted a band encircling it quite near the gum; to this was attached an arm [C] of spring wire, and soldered to the posterior portion of the plate covering the mouth, having considerable length, that it might force the tooth around. The arm was changed from time to time, until I had the satisfaction of turning a tooth completely on its own axis.

The time occupied in this operation was about four months. The cuts with the attachments and appliances will fully illustrate the manner in which the force was applied to accomplish the end desired. Cut No. 3, representing the appearance of the teeth when the operation was finished.

I hope to hear from others on a kindred subject.

2



3

EDITORIALS AND CUTTINGS.

In closing the first year of the New York *Dental Journal*, we feel it incumbent upon us to give some idea of our progress, and of our intentions for the future. Although we make no pretensions to having realized independent fortunes by our enterprise, we can assure ourselves and our readers that if our subscribers but prove as good as their word, we can be certain of having at least lost nothing. And as we feel that we have progressed somewhat towards our design, the improving of the standard of dental periodical literature, we rest satisfied. In the future we shall continue to be guided by the same rules we adopted at the outset; to give such a judicious arrangement of original and selected matter; literary and scientific; theoretical and practical; as shall serve both to instruct and amuse. With such intentions, having greatly improved the appearance and quality of the Journal, we certainly consider ourselves justified in asking the aid of all those who really take an interest in the progress of the science and the profession. And especially we wonld appeal to the profession in our own City and State. Certainly if Dentists in our own locality will not support us, we can hardly demand it of others who are not as much interested in our welfare; and we certainly hope that every New York Dentist will find it both for his interest and gratification to help us both with his pen and his purse (to the amount of a subscription) assuring him, that if he does his duty by us, we will use every effort to do ours by the profession. Since the issue of our last number, we have traversed the West and South improving and extending our acquaintance with the profession, and looking into the progress of our science in those regions. While we have been able to report satisfactorily to our own neighborhood, we have been charmed with the hospitality, the genial kindness which has met us at every turn. Of the interesting Convention at Indianapolis, we have given as fair a report as possible, aided by the valuable assistance of our friend TOLAND, to whom we return our thanks, and wish all prosperity in the extending of his labors.

As regards the entertainment at this Convention, no report could do it justice, and our Editorial goose-quill falls prostrate from our paralysed hand, when we reflect upon the dainty viands, the brilliant oratory, the witty sayings, the witching beauty that surrounded us. To our friend PECKOVER of Paris, Ky, we return our heartiest thanks for all his many kind attentions. We were much gratified with some extracting instruments exhibited by this gentleman, who is their inventor ; we hope to be able to present a description and cuts of these instruments to the readers of the DENTAL JOURNAL, at a future period. Finally, we gratefully acknowledge a cane made from the dwelling of Harry Clay, and presented to us by Dr. Peckover. We hope soon to be able to present to himself and his interesting family, specimens of the result of our efforts to encourage *home manufactures* generally, and *milk* especially.

We would draw the attention of the Profession to a new work about being published by Dr. C. A. Harris, of Baltimore, upon the Pathology of the Mouth. It will be illustrated by about forty colored plates, and the reputation of the author is a sufficient guarantee of its value as a standard Dental authority.

OUR DENTAL COLLEGE.

We have been much gratified in our late perambulations, to witness the evidences of the successful career of our various Dental Institutions. They were a sufficient commentary upon the ill-advised efforts which have been made to establish a similar institution in this State. We were happy to learn that the abortion, termed "A Bill to Establish a New-York Dental College," has again fallen still-born. When the New-York Profession shall be ready to receive and protect such a College, we trust that some one shall be found with sufficient brains to draft a suitable bill, and we can assure our readers that the New-York *Dental Journal* will support the *right kind* of a bill with heart and hand.

☞ The Lecture of Professor McQuellen, which we publish in this issue of the *Journal*, was not written with any idea of subsequent publication; but, at the suggestion of one of the Editors, Professor McQuillan consented that it should be laid before the public. Our readers will be gratified, as we were, with its eloquence, and especially in its touching eulogy upon the late Dr. Townsend. We shall hereafter present more from the same pen.

For some time past, both by letter and in conversation in different parts of the country, we have received many inquiries concerning the *Vulcanite Rubber Base* for artificial teeth; and we would here take occasion to mention, that this composition is rapidly taking precedence over all other kinds of work, especially in cases for the regulating of teeth. The adaptation of this work to the model, renders it necessarily a perfect fit in the mouth. We understand that arrangements have been made by which Dr. B. W. Franklin has entered upon the entire management of the business, and the Profession can now obtain what they have so long needed and desired, other than a metallic base for artificial teeth. This method of mounting has been in use among our most skilful practitioners, and we believe has given general satisfaction.

PENNSYLVANIA ASSOCIATION OF DENTAL SURGEONS.

Time and space will not permit us to give the minutes and discussions of the Annual Meeting held at Philadelphia, October 5th, 1858. The election of officers for the ensuing year resulted as follows:

President	Dr. S. Dillingham.
Vice President	„ T. L. Buckingham.
Secretary	„ Geo. T. Baker.
Treasurer	„ J. Foster Flagg.
Librarian	„ C. N. Pierce.

The following resolution, presented by Prof. McQuellen at a previous meeting, was adopted:

" Resolved,—That two or more of the Association shall be elected delegates to the *American Dental Convention*, with instructions to suggest the expediency of the Convention becoming a delegative body, composed of representatives from State and County Dental Associations throughout the Union"

We are glad to see this movement, and would recommend other Dental Societies to co-operate with the above. The necessity evidently exists for some change that shall redound to the credit of the profession.

We call attention to the fact that our publishing office has been finally located at *No.* 640 *Broadway, Corner of Bleecker Street*, where Communications and Exchanges can hereafter be addressed.

We have received from Prof. McQuellen portraits of Dr. Townsend and Prof. J. D. White, which may be seen at our office.

We are delighted to see the progress of our Cincinnati friends, and welcome the *monthly* publication of the *Dental Register* as a new era in Western civilization. We hope that the *course* of the *Register* will be as correct in its *monthly issues* as it has heretofore been as a quarterly. But do not flatter yourself friend TOLAND that you can beat the *Empire State!* We have a strong notion of publishing the NEW YORK DENTAL JOURNAL as a daily, laying *it* upon the table of our subscribers every morning, before breakfast, to be discussed with their eggs, their muffins, and their mocha.

We give below a list of our Agents to whom Subscriptions and Advertisements can be forwarded :—

Trubner & Co		London, Eng,.
Dr. Schmedicke	Jerusalem Strasse, No. 13,	Berlin, Prussia,
Fowler & Preterre		Paris, France,
A. M. Leslie		Cin., Ohio,
Jones, White & Co.		St. Louis, Mo.,
H. Snowden		Baltimore, Md.,
John S. Clark		N. Orleans, La.,
B. S. Godman & Co.		Boston, Mass.

We have received :

The British Journal of Dental Science	London,
American " " "	Baltimore,
Dental News Letter	Phila.,
American Dental Review	St Louis,
Dental Enterprise	Baltimore,
L'Art Dentaire	Paris,
Dental Reporter	Cin.,
Journal de Medicine Pratique et Chirurgie par Championiéire	Paris,

We give the following as presented to us by one of the Profession as a cure for tooth-ache :—

Oil of Cloves	1 drachm
" Sasafras	1 "
Aqua Amon	2 "
80 pr. ct. Alcohol	4 "
Gum Camphor	1 "
Sul. Ether	1 "
Chloroform	1 "

DENTAL PRACTICE FOR SALE.

A Dentist of high standing in one of our chief Western Cities, is desirous of retiring from his practice, with between five and six thousand dollars per annum. Any one wishing to purchase such a practice, can hear full particulars by addressing the Editor of this Journal.

John Klein, of Philadelphia, has invented and exhibited to us a new ingot, for casting metals. This he claims to be superior to any instrument of the kind now in use ; and we think his claim is just, judging from our own experience.

GALVANIC ANÆSTHESIA.

We learn from "Championniére's Journal of Practical Medicine and Surgery" of January, that this subject occupies considerable attention in England at the present time ; and that the universal judgment is adverse to the professed anæsthetic powers of electricity and galvanism. At a debate in the London College of Dentists, it was unanimously decided, that not only did not galvanism prevent pain, but that it frequently increased it. In France, M. Vautier, an eminent Dentist, gives his opinion, that the process will never be of much service in Dental Surgery, because it frequently complicates the operations, and produces two pains, instead of one. In connection with this matter, we have received the Circular of Dr. S. B. Smith, who has invented and patented a machine, by which he can throw a two and fro and direct current of electricity upon the desired spot, while others only give two. By this means Dr. Smith claims to have arrived at painless operations by galvanic application, and certainly his proposition is feasible.

OUR CORRESPONDENCE.

Although we have received many kind and flattering notices in our correspondence, since the establishment of our Journal, we have never alluded to them publicly, but have none the less appreciated them. We cannot resist the desire to quote a few lines from a Western friend, and a distinguished member of the profession, which will show how we are esteemed in those quarters:—

"It has given me much pleasure to see the more elevated themes "both directly and indirectly belonging to our profession, invested "with the interest your pen has thrown around them. In fact the "appearance of the Blue Cover has thus far been hailed by the pe- "culiar geneflection that mind symbols itself to mind."

Dr. W. Dalrymple has shown us a Dental Register, which is one of the finest works of the kind we have ever seen. It is illustrated with cuts similar to those used by Dr. Parmly; answering for entries and remarks, and including nineteen patients to each page. It has also a record for each cut, which is particularly necessary for a book of this kind. It is almost indispensible for every practitioner, and we recommend it to the Profession. Copies may be seen at No. 19, Bond Street, or at the Office of the *Journal.*

We have on exhibition to the curious, interesting specimens of osseous union of the teeth, and specimens also of natural pearls formed upon the teeth.

We invite the attention of the Profession to "Ask's Operating Chair," advertised in this number. From experience we recommend it.

THE

NEW YORK DENTAL JOURNAL.

JULY, 1859.

A GLANCE AT THE HISTORY AND PROGRESS OF DENTAL SCIENCE,

FROM THE EARLIEST AGES, TO THE PRESENT TIME.

(Continued.)

THIS period of Dental history is after all but a list of names. After AMBROISE PARÉ came D. ANTOINE D'ALTOMARI, who was noted for his acquaintance with the pathology of the teeth:—he was of the severe measure school, and advised and practiced drawing teeth whenever he had an opportunity. One J. ANDRÉ DE LA CROIX became known by curing a fistula; having drawn a tooth, the fistula disappeared. ACHILLE–PIRMIN GASSER drew a tooth from his own jaw, but so carelessly, that he nearly bled to death, and, says the chronicler, "remained pale for the remainder of his life." PIERRE FOREEST seems to have been quite another authority. He was the first who informed the world that the manufacture of artificial teeth from ivory was like to be a dangerous blessing. He stated that their insertion by means of gold would cause violent inflammation of the gums and other portions of the mouth, and thus endanger the health of the patient. He had seen this effect produced, and therefore rejected the practice. He made an improvement in the forceps, and became noted for his ability to cure diseases of the maxillaries. This practitioner, like many others, had his hobby, which was that there must exist some medical substance having the property to produce the expulsion of teeth from the jaws without pain; and he devoted much of his time and energy to the search for this Dental philosopher's stone. **FABRICE D'AQUAPENDENTE** seems to have been a practitioner of considerable merit, and did his work very much as the present generation see fit to do theirs. Thus, when a tooth was carious, he removed the deposit with instruments, killed the nerve with a red-hot iron, and proceeded to fill the cavity with beaten gold. He used many instruments, all of them apparently suited to their uses.

FABRICE DE HILDEN destroyed a swelling of the posterior molars, by means of caustic,—during the operation, keeping the teeth separated by little pellets of wood fastened with iron rings or bands. **JEAN HEURNIUS** advised sufferers from odontalgia, to beware of visiting the dentists in too great haste, as often the cause of disease is internal, and would not with them receive its due attention.

J. S. **STROBELBERGER** meanwhile, favors the Dentists, as he considers that they have that practice which is necessary for usefulness.

This latter gentleman recommended smoking tobacco as a sedative in case of toothache; but tobacco was then but just becoming known, and people were as shy of it from ignorance of its qualities, as many now are from knowledge of them. **STROBELBERGER** proposed as an instrument for extraction, a simple thread, that primitive forceps with which New England mothers draw the fangs from their curly-headed sons and daughters. Though in many respects reasonable and sensible in his theories, **STROBELBERGER** was a believer in the power of amulets, and many other superstitions of the time.

M. A. **SEVERIN** opened a large abscess occasioned by the eruption of the wisdom teeth, and with wooden pincers managed to destroy an enormous tumor of the inferior maxillary. **CLAUD DEODATUS** was the Surgeon to the Bishop of Basle, and carried weight with his opinion among these 17th Century Dentists. He noticed the frequent use of *aqua-fortis* in diseases of the teeth, and accused it of causing *Caries* of the jaw, and loss of the teeth. For this reason he counselled only the use of Dentifrice-powders, and general treatment. **JOHN HEURNIUS** was of the class who believed in the existence of some medical substance which should extract teeth without pain; to this theory there were many adherents, and Heurnius advises dentists never to attempt to extract teeth, except by inserting between the tooth and the gum a particle of the gum *Euphorbium*, which would cause the tooth to fall without pain.

Dupont was the first who recommended the extraction of the diseased teeth and their immediate replacement in their old sockets, where they will, as he remarks "form new ties with the walls of the cavities; and thenceforward cause no more pain."

Denis Pomaret confirmed this assertion by offering in evidence a sound tooth which had been drawn by accident, and being immediately replaced, did well and grew healthy. **Nicolas Tulp** tells a story of one **Goswin Hall**, a doctor of Amsterdam, who, while suffering with the toothache, made an incision into the gum. Fever and delirium supervened, and the unfortunate doctor died.

The belief in Dental worms received many additional proofs at this period. **Olig Jacobœus** having cleaned the carious deposit from the cavity of a diseased tooth, saw a worm come from it which lived in water for some time. **Philippe Salmuth** drew from the tooth of a person similarly affected, a worm an inch and a half long, resembling such as are found in cheese. But this faith in worms was entirely eclipsed by the belief in *golden teeth* and *teeth of iron* which the Dentists thoroughly believed to exist, and explained by various chemical theories too ridiculous to be mentioned.

Nathaniel Highmore is a name perhaps better known at this period than almost any other; he appears to have studied the pathology of the teeth more and to better advantage than any other, while he discovered several facts of the last importance to the profession and the world at large.

BIBLIOTHECA ODONTALOGICA.

Becker, A. C. Dentition according to some of the best and latest German authorities; intended for domestic use. 18mo. New York, 1848.

Blundell, Walter. Painless tooth-extraction without chloroform, with local anæsthesia, by congelation, in general surgery. Second Edition. 8vo. London, 1854.

Carette, M. B., Le Dentiste de la Maison. Petit traité sur les maladies, qui attaquent les gencives et les dents, et sur les moyens de les prévenir; sur le travail de la première et de la deuxième dentition chez les enfants et sur les difformités qui peuvent en être la suite. 8vo. Valence, Combier, 1853.

Clarke, J. P. Odontologist; or, how to preserve the teeth, cure toothache, and regulate dentition, from infancy to age. 8vo. London, 1853.

Claudon, Ambroise. Des accidents de la seconde dentition, et des soins à prendre pour avoir les dents bien rangées. Second Edition. 8vo. Clermont, Huet, 1853.

Delacour. Notice sur la carie des dents et sur l'emploi d'une liqueur alumineuse camphrée ou chloroforme, qui calme la douleur et arrête les progrè de la carie, sans qu'il soit nécessaire d'extraire les dents malades. 16mo. Dijon, 1854.

Didier, M. J. Mémoire sur l'algontine ou chloroforme dentaire et sur l'algontinisation des dents comme moyen de faire cesser immédiatement les douleurs. 18mo. Paris, 1850.

E—F.

Ehinger, Conrad Casper. Ejus disputatione de odontalgia. 4to. Altdorf, 1683.

Eloy, J. Bapt. De remediis aut odontalgicis. 8vo. Wien, 1772.

Eustachius, Bartholomew. [A most distinguished Italian anatomist of the sixteenth century. Died in 1574.] Libellus de Dentibus. 4to. Venice, 1563.

Fauchard, Pierre. Chirurgien dentiste, ou traité des dents. 12mo. Paris, 1728.

" " Another edition, 2 vols. 12mo. 1746.

" " " Berlin, 1733.

Fitzpatrick, A. New system, illustrated, of fixing artificial teeth. 8vo. London, 1853.

Flagg, Josiah F. The Family Dentist; containing a brief description of the structure, formation, and diseases of the human teeth. 12mo. Boston, 82 pp.

Fleurimon. Moyens de conserver les dents belles et bonnes. 12mo. Paris, 1682.

Fox, Joseph. [Member of the Royal College of Surgeons, London.] [See biographical notice in vol. II., No. 2, of N. Y. *Dental Journal.*] The natural history of the human teeth; including a particular elucidation of the changes which take place in the second dentition, and describing the proper mode of treatment to prevent irregularity of

the teeth; to which is added an account of the diseases which affect children during the first dentition. With thirteen plates. 4to. London, 1803–6. Second Edition, 1813.

———— The history and treatment of the diseases of the teeth, the gums, and the Alveolar processes; with observations on other diseases of the mouth, and on the mode of fixing artificial teeth. Illustrated with copper-plates. 4to. London, 1806.

Fritsch, Joannes De. De dentibus. 8vo. Wien, 1772.

Fuller, John. [Surgeon dentist, London.] A popular essay on the structure, formation, and management of the teeth. Illustrated by engravings. 8vo. London, 1810. Third Edition, 1813.

NOTES FOR A MEMOIR ON THE PATHOLOGY OF DENTO-NEURALGIA.

BY A. C. CASTLE, M. D., NEW YORK.

Some twelve years since, in the Boston Medical and Surgical Journal, I published a series of papers—"Notes for a Memoir on the Pathology of the Teeth,"—in which I divided the teeth into four groups, and again into one or two subdivisions of classes, in accordance with their physical characteristics, in connection with and significant of the peculiar diathesis and predisposition of each individual member of the human family. The following was the classifying:

I. The large, firm, dense yellow teeth.

II. The dense yellowish white teeth.

III. The chalky white teeth, the yellow transparent teeth, and the yellow chalky teeth.

IV. The transparent white teeth and the translucent bluish white or pearly teeth.

As I observed in my previous notes, the possessors of the firm, dense yellow teeth (Fig. 1), of which these are the index, have what is termed "a sound constitution," a strong, well put together frame or skeleton, great muscular development and strength, with vigorous nerves and good health, physically presenting the outlines of anatomical manly dignity and beauty.

Fig. 2. Possessing the second class of teeth, while they possess the nervous vigor and strong muscular development in a less marked degree. The skeleton not being so dense or strong, so the external physique harmonizes, the features present a softer expression, and the lineaments a full and more rounded form. These persons, however, do not the less enjoy the general good health allotted to man.

Fig. 3. The third class,—the chalky white teeth, the yellow transparent teeth, and the yellow chalky teeth,—denote a sero-lymphatic temperament or a strumous diathesis.

Fig. 4. The transparent white teeth, and the translucent bluish white or pearly teeth, so much prized, so much envied, and so much poetized, bespeak for the unhappy possessor a scrofulous diathesis and a predisposition to scrofulous tubercular phthisis, and with the previous class cancerous and glandular affections—marks I consider *as sure and perfect* as is the Eddystone Lighthouse a warning of the rock beneath.

Dr. John Torrey, Professor of Chemistry in the College of Physicians and Surgeons of the University of the State of New York, now United States Assayer, in a conversation with me, some seven years since, on the above classification of the teeth, was pleased to observe that he was much gratified with my notes on the pathology of the teeth; but thought that I had divided the groups into too many classes. I received with respect the objection of a gentleman so well learned in the sciences, and I made still closer observations on my classification; and I am now free to say, after these several years' additional attention to the subject, that I have no inducement or demonstrative cause for making any alteration or modification in the arrangement of my groups.

Perhaps there is no other region upon the face of the globe that offers such demonstrative proofs on the subject of dental peculiarities (as well as the peculiarity in the opinions and experience of dentists,) as does the region of the area of the United States,—the climate or atmospheric phenomena exhibiting the very extremes of heat and cold, often varying 40° Fah. between sunrise and sunset. Moisture is excessive, rapid evaporation extraordinary, while the electric state of meteorological phenomena is no less remarkable. The effects of so many vital external influences combining their action upon the animal system must be too obvious to be lost sight of; and in no cases are their combinations more strongly marked and illustrated than by the development of those super-abnormal conditions to be observed in scrofulous or tubercular subjects.

Dento-neuralgic affections, so far as my observations extend, have been treated rather as idiopathic affections referable to the region affected, under the various old names of rheumatism of the particular part, sciatica, *tic-doloreux*, intermittent headache, nervous headache, &c., &c., &c. The few isolated "singular" cases, published at periods remote from each other, of a neuralgia disappearing after the extraction of a diseased tooth, have produced no other impression upon the mind of the general practitioner of dentistry, or upon the attention of the medical practitioner, than being one of those curious enigmas occasionally appearing in what may be termed the curiosities of medical literature. Dr. Woodbridge Strong quotes that "Man is a microcosm; and"—continues the Doctor—"certainly he is an enigma, and his diseases are obscure and with difficulty understood, affording scope and verge for the highest and most profound intellect." Dr. Strong also pertinently, as the remark is emphatic, says, "In this field none need to lag *for want of ground to occupy;* none need to weep, however advanced, for the want of another world to conquer!"

The science of Dentistry, like that of the medical art, does not consist merely in the superficial routine of daily practice to the end of making money merely; nor will any practice, of however long standing, of unique success in the simple manipulation of stuffing gold into the hollows of teeth, or filling fangs that the gold penetrates through (?) their apices into the maxillary alveolus, establish Dentistry upon a true mechanical science; nor will the unique and original hypothesis—that "a *dead nerve*" in a tooth possesses the *power* of absorption! or that the cause of the decay of the teeth is the "introduction of knives and forks,"—with the recommendation to parents to adopt some other plan to supersede "this fashionable indulgence (!) for the preservation of the teeth in the rising generation." All this, however distinguished in public estimation the authors of such nonsense may be, does not establish dento-pathological science.

Proceeding, then, with this subject of Dento-Neuralgia, Dr. Rush records a case of madness "occasioned by diseased teeth *which were in no way painful to the patient.*" Dr. Rush also states a case of "hip-joint disease and rheumatic affection"—"being immediately removed after the extraction of a tooth." The London Lancet publishes a case of "*neuralgia of the womb*"—"immediately disappearing after the extraction of a diseased wisdom tooth." Mr. Leocker relates a case of *epilepsy* at once disappearing upon the extraction of some teeth. These constitute the isolated "extraordinary cases" having any bearing in connection with my observations regarding the interesting pathology of dento-neuralgic affections. It will be admitted, for the attainment of correct pathological deductions, that a proper and thorough knowledge of the physical, physiological, anatomical, and the various abnormal conditions of the dental system, is paramount; to these must be added a correct knowledge of the whole nervous system, and the 5th, 6th, 7th and 9th pairs of nerves, especially with the cervical nerves.

The causes of neuralgia, hitherto, have been involved in the deepest obscurity. Not so, however, is it now necessary that the cause of many neuralgic affections should any longer remain in this state of obscurity. The dentist introduced ancœsthesia to the science of surgical appliances; why should not the dentist have the honor of unfolding the pathology of three-fourths of the affections of neuralgia of various nomenclature? The teeth are amply supplied with blood-vessels, lymphatics, membranes and nerves. With these facts before us, it would be strange, indeed, if the teeth were to enjoy an immunity from disease any more than the eye, the ear, the bones, or even the hair and the nails. Hence, any functional or disorganizing agencies may *and do* produce disease in the teeth; and having these vital organs of recuperative or absorbent agencies within them, they may be and are idiopathically affected or sympathetically deranged; and being idiopathically affected, they are the proximate and remote causes of dento-neuralgic affections and pains. The proximate cause may at once be stated as being the chronic inflammation and thickening of the *neurilema*, or vascular membranous envelope of the nerves within the dental chamber and dental canal of the tooth, superinduced by the abnormal condition of the bone of the tooth. The morbose state of such teeth as are undergoing the slow process of carious decomposition from external agents; those teeth passing through the process hypertrophy; or those undergoing the slow process of death ending in *necrosis*, without any other apparent superexciting cause than comprehensively what is ignorantly termed "scurvy in the gums." If a *necrology* of teeth were to be kept by dentists, *cause and effect* would be wonderfully and clearly demonstrated, and the exciting cause of dento-neuralgia in most instances explained; and the *diagnosis* of rheumatic affections, nervous headaches, and other neuralgic symptoms, readily elucidated.

DENTISTS AS INVENTORS

VULCANITE BASE FOR TEETH.

DR. E. A. L. ROBERTS,

OF 56 BOND STREET, NEW YORK,

Would inform the Profession who are familiar with this valuable invention, and they will be glad to learn, no doubt, that the efforts of the *American Hard Rubber Company* interests have thus far been unavailing to prevent the above continuing the manufacture of this article. At the last term of the U. S. Circuit Court, held in this city, and just closed, in a suit brought against the above by the Goodyear interest, a motion was made for an injunction to restrain me from using, in the manufacture of plates for artificial teeth, Vulcanized Gutta Percha, and from selling such plates to others, when manufactured; but the defense made by me to such motion was so complete, that the counsel of the Goodyear party abandoned his motion without argument. As this matter is exciting not a little interest in our profession, I shall give, in the next number, a copy of Goodyear's Patent of 1851, and his reissue of 1858, that all may judge of the claim made in each.

New York, June 22d, 1859.

earth, and *seams* like a very god; woman, fair woman, bends with bewitching grace, to grace his work; and labor lightened maketh the heart glad. Thus intelligence smooths the way over the rough path of life, it brightens every eye, and gives elasticity to every step:—and we now naturally ask, Has our own profession no names to be enrolled with those so conspicuous now before the world? Who was it who commanded the nervous system of man to sleep, while tortures worse than death had possession of the body? Who has said to the afflicted, worn with suffering and disease, Peace, be still, for I will give you rest?

Who has said to the soldier, weary with his wounds, dreading the fearful amputation, Have no fear, for sleep shall rob the knife of its terrors? Yes, Morton's name is a household word; and whatever the verdict given as to who first knew that that most powerful agent, Ether, had capabilities of stilling pain, it must be conceded that Morton decided its merits by practical experiment, and demonstrated to the world that a new power would bring comfort to the distresed. To what extent is mankind benefited by this new ray of light thrown across the pathway of life? None can tell the limits, none can appreciate the boundaries. Although the world at large may forget his claims, every sufferer on earth's wide surface, thus relieved, must be forever grateful as to the result of his discovery, whose name was recently introduced as one of the great philanthropists of the age.—Years have passed away, and the inventive mind of man has racked the brain, hours of toil have been spent, endeavoring to solve the great problem, How shall life be saved from wreck at sea? The great waters of the fearful deep have rolled their angry floods over thousands of fellow mortals; and their despairing cries have gone up to the very heavens for relief, and yet no sure relief was there. The life-boat, broken and scattered in pieces, drifted upon the wide waters, a mocking token of confidence lost, hopes crushed, with not a clinging hold of life; but our own Larchar, whose skill in our profession many will bear witness to, has completed a great work in constructing a Life Boat, answering all the requirements hitherto deemed necessary. This great triumph of marine invention is already appreciated at home and abroad, and will we trust grace every ship from every port. Let every davit on each noble vessel suspend this ingenious work, and we will hear of no more loss of hope, of life, of wealth,—while deeply regretting the fate of the never to be forgotten Austria and Central America.—Who has made, by long experiment in the laboratory, the first literal success in mechanical dentistry, rendering our labors comparatively easy, giving beauty and cleanliness to our work? and, although the claim has been contested, yet the profession now most unanimously agree, that to Allen the praise should be awarded. May he be richly rewarded in his *continuous work* of beauty. Our profession numbers many men of brilliant minds. Not only are they inventors whose skill in mechanical arts are appreciated every day, in all the various operations which belong to their patients, but out of their legitimate line we can recall many bright evidences of their skill, which make up those conveniences which make happy and easy every-day life. Wescott's door spring, although simple in construction, yet has that mechanical ingenuity connected with it, which makes it perfect within itself; it's *adoorable* in its uses, and commends its construction to those living in this highly civilized country. Old Benjamin Franklin's name is as familiar in every child's mouth as father and mother, known over all the world for his wisdom, economy and usefulness; yet while the printers boast of this great and good man, we have a Franklin among us. His name is connected with very many improvements in our profession; his kindness, with his great mechanical traits, is universally appreciated by the brethren. A man of few words, but his words when spoken may be relied upon: he has lately turned his attention to the perfecting of the Vulcanized India Rubber Base, under Goodyear's Patent, and we may safely say that when a man of his mechanical skill turns his entire attention to any one particular object, the profession may undoubtedly believe there is good in it. Could we get at all the various useful instruments used, and tell of their origin, we could make a volume well worth perusing. Our Dental Chairs, Forceps, Pluggers, and various instruments used by us, are the results of study and long practice. Peculiar operations in the manner of filling teeth and their treatment, such as Heulian's operation upon the nerve, Parmley's, Dwinell's, Clark's, Tucker's, and Gunning's method of stopping teeth, all of these have their peculiarities, —even Blandy's Cheoplastic method is peculiar;—but we have writers noted for their productions in literature: Solyman Brown, grown grey in the profession, has contributed many, very many, valuable hints to the young men about entering this our field of action. Versatile in his manner, kind and obliging to all, he has the respect and confidence which entitles him to the esteem of those who are fortunate enough to enjoy his society; and it is a bright evidence of progression, that we have Colleges under the management of men like Harris, Taylor, White, Townsend and Wescott, whose minds and characters are eminently fitted for these high posts of honor. We may congratulate ourselves that every day young men of education and refinement are entering our ranks with highly cultivated minds, pleasing address, and all those attributes which make the man, in whatever position he may be called in life. Therefore, let us have confidence in our ability, let us accord honor to whom honor is due, lay all jealousies aside which retard our onward march, and with great good feeling cheer each other on towards that point esteemed perfection.

DENTAL ANOMALIES.

A SUBJECT which we have never seen specially treated, and yet which we think would be interesting to both the profession and the public, is the one to which we have given the above title, and on which we propose to give some space in the *Dental Journal.* The many unaccountable malformations and horrible monstrosities which Nature, as it would seem in a frolicsome mood, occasionally brings forth, have long been the subject of inquiry and treatise by medical writers. As we shall proceed to show, these malformations are not confined to one portion of the human system, but are found equally in all its members, and not unfrequently distort and disturb the whole body. In the present article, however, we shall confine our remarks to those peculiarities which attend malformation, or unnatural progress, in the dental system and its appendages.

We then divide the subject into the following heads, for easier examination: *Augmentation or diminution in the number of teeth—Changes in position—Anomalous unions—Diverse anomalies.*

We will commence with the changes in number in the human teeth.

All teeth should present three successive stages of progress, viz., their development, existence, and final fall, always supposing that this progress is not interfered with by death or accident.

Anything which interferes with these three stages or any of them, may be considered *anomalous.* Thus the premature fall of one or more of the teeth, either of the first or second dentition, constitutes an anomaly by diminution—very common, and consequently little regarded. The precocious appearance of teeth meanwhile, may be termed a numerical anomaly by augmentation, being, in fact, an excess of the number of teeth appropriate to the age of the party. This is also a common occurrence and attracts little attention, except when it appears in the form of teeth produced in the *fœtus,* an occurrence of rarity.

MECKEL, an anatomist, remarks that this phenomenon most frequently takes place where the *intra-uterine* life has exceeded the usual time, though only a few weeks. There was a superstition among the ancients that great destinies awaited children who were born with teeth. Thus one celebrated Roman seems to have verified the truth of the prejudice. Cursius was surnamed *Dentatus* from his having enjoyed this privilege; while modern times have produced Louis XIV. and Mirabeau as further witnesses to the same fact. But unfortunately for the friends of the miraculous, where there is one who, being born with teeth, becomes great, there are many who die in infancy, or living, are never heard of. Indeed, it is now considered by eminent physicians, that such precocity lessens the chances of life.

Again, there are, as is well known, many cases of delayed development of the teeth; and, occasionally, one of prolonged existence. Of these latter some curious instances have been related: among others, we remember one of a Frenchman who died in the last century, aged one hundred and eleven years, and carried with him to his grave both his teeth and his hair.

The prolonged stay of the milk teeth after the appearance of the permanent set, sometimes causes the presence at one time of more than the whole number properly belonging to such dentitions. Thus Arnold, another writer, mentions a case where there were at one time in each jaw, eight incisors, four canines, and twenty-four molars, being in all seventy-two teeth ; but this statement, although given as a fact, is not supported by proofs.

But this brings us to the second division of our article—*Changes in position.* Rare cases have occurred where teeth have been developed in the angle of the lower maxillary, and even in the palatine arch. These characteristics, which are natural in many reptiles and fishes, become curious anomalies in man. We find also frequent cases where the teeth, forsaking the vertical direction natural to them, present themselves in an oblique or even horizontal position; this anomaly will be noticed in persons afflicted with *hare-lip.*

It is even stated that cases have been known where teeth grew with their crowns at the alveolar process, and their roots projecting.

Curved teeth are also frequently met with, some having an outward, others an inward tendency. Other cases are cited of changes in the relative positions of teeth; as, for instance, molar teeth will be found occupying the place of incisors, and *vice versa.* Passing on, we reach the third division of our subject—*Anomalous union.*

This anomaly is frequently caused by the deposit of tartar filling the space between the teeth, and thus uniting them ; of course, such union is not permanent, and a divorce may easily be effected by proper use of instruments. Cases have been known, where, from inattention, this species of union has extended through a whole set, inclosing all the teeth in a wall. A more curious species of union is that which sometimes occurs when the teeth are not separated, but form a solid arch of bone. Such a case is mentioned by Plutarch in his life of Pyrrhus, whose upper jaw was formed in this manner, the divisions of the teeth being marked out, but not cut through.

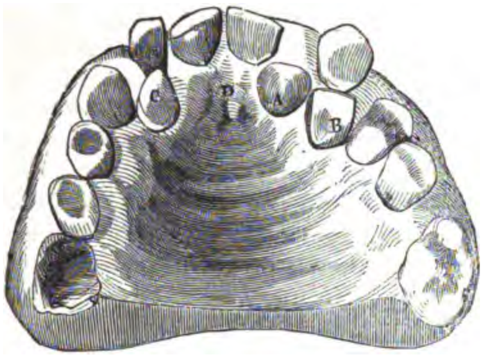
One of the sons of Prusias, king of Bithynia, is mentioned by Valerius Maximus, as the subject of a similar malformation.

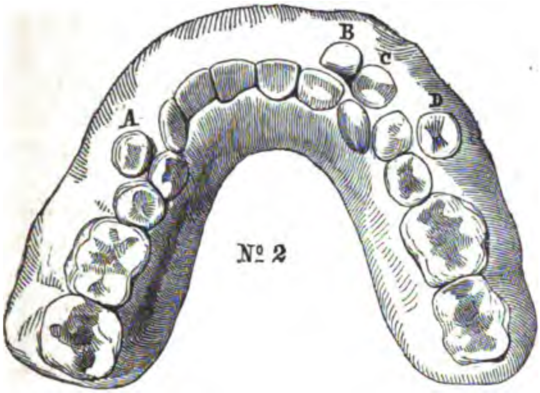
Various modes of union between two teeth have been noticed. Thus tubercles are sometimes formed, having one half on one tooth and one on the other, being the bond of union. Again, two teeth are frequently united at the roots, being supplied with vitality through the same nerves and vessels. It is remarkable that all these cases of anomalous union present individually characteristics of the normal state of dentition in various other animals.

For the union of two incisors by tartar, or otherwise, resembles perfectly the natural human molar; the union of a number of teeth into one, is equally like those of the elephant; and the union of all together, forming one bone, is as in birds and tortoises. This brings us to our last division—*various anomalies.* In this indefinite class, we may mention the planting of teeth simply in the gums, having no roots of importance; and other instances where they are not fixed in the gums, but are fastened by a simple membrane. Curious changes of position have been noticed, which we can mention here. The molars have appeared between the incisors; canines in the place of molars, and so on. We might go on, *ad libitum,* to describe various changes in the animal economy which sometimes appear, and are classed properly as anomalies; but as we only desire to follow the subject, at present, in relation to the dental system, we will close with the hope that our investigations may induce others more competent to pursue them still farther.

In connection with the foregoing, we present the following from our own practice, as a curious instance of similar malformation of our own period. Plate 1 represents the upper maxillary, with a portion of a

Nº 1





Nº 2

third dentition, in an adult. A represents a perfect canine tooth, directly behind where had formerly been a lateral incisor. B and C. are two lateral incisors. D being the space formerly occupied by three teeth previously removed. The patient, Mr. T., of Illinois, aged thirty-eight, states to us that, in each of the members of his immediate family, the same or similar freaks of nature were in some degree presented; he also states that his father died being possessed of complete second and third sets of teeth in his mouth at the same time. Plate No. 2 presents the lower maxillary of a sister of the above, aged twenty-nine years. The upper teeth had been removed, but had before presented quite as strange features; in their place she is at present wearing an artificial denture.

A, C and D represent three perfect bicuspids of the third dentition, and B a perfect lateral incisor. If space permitted, we would present similar cases, which we shall reserve for a future number.

(From the Quarterly Journal of Microscopical Science.)

ON CERTAIN APPEARANCES OCCURRING IN DENTINE, DEPENDENT ON ITS MODE OF CALCIFICATION.

BY JAS. A. SALTER, M.B., F.L.S., &C.

In Kölliker and Siebold's Zeitschrift for 1850, Czermak published a paper on some points of the minute anatomy of the teeth, whose importance has not, as it seems to me, been sufficiently appreciated in this country. No abstract or translation of this paper has yet appeared in English, though the interest and value of its contents probably equal any single other that has appeared since the earlier writings of Purkinje and Retzius.

Czermak, among other interesting matter, has been the first, in this communication, to give a correct explanation of those curious appearances of globular, conglomerate formations in the substance of dentine, which have been so long an enigma to some of our most indefatigable microscopists.

My object in the present communication has been, partly to give a summary and confirmation of Czermak's paper, in reference to certain points in the anatomy of dentine, and partly to add some further observations of my own on the same subject and in the same direction. The peculiar markings on dentine, known as the "*contour lines*," and their appendages, the irregular patches of small interspaces which limit the outer extremities of the contour lines, have never received a rational explanation until the publication of Czermak's paper; and the latter appearances, especially, have previously been the subjects of the most far-fetched and untenable interpretations.

The peculiar patches of opaque interspaces, and the globular masses of dentine which bound them, have been shown by Czermak to be dependent on the mode in which the animal material of dentine is calcified, and to a certain extent (though I think not sufficiently) he attributes the contour lines to the same cause. At all events, they are obviously associated and produced at the same time and under the same conditions of nutrition, and must be considered together.

The appearances in question are found variously disposed in different teeth, and in different proportions in different specimens. It may be remarked, however, that they are always most conspicuous in those teeth whose *enamel* exhibits irregular development; and, in making sections, this may be remembered for the purpose of selection. It will be found, moreover (as I shall presently explain,) that there is an obvious relation in number and position existing between the contour markings in the dentine, and the grooves and irregularities on the enamel—a fact which I have not seen mentioned, though I believe it to be uniform. Czermak has, however, pointed out another circumstance not previously described, by which this condition may be recognized in the entire tooth—it is the appearance of *opaque white lines around the fang, forming white rings;* this can be best seen by moistening the tooth for a minute, and then holding it obliquely by the side of a bright light. These rings, which vary in breadth from the 1-50th to the 1-100th of an inch, are scattered in succession from the neck to the apex of the fang; their white opacity contrasts remarkably with the darker, semi-clear, yellower intermediate portions of the fang. These rings are, of course, abnormal; their number varies. I have one tooth—an inferior canine—in which there are thirteen rings strongly marked. Of the import of these rings I will speak hereafter. When, then, a well marked specimen is examined with a low power, the arrangement of the contour markings will be seen as follows:—I would, however, first observe, that the section should be vertical, and of an entire tooth, for, if it be only of a portion of a tooth, the relative position and direction of the markings in the different parts of the organ cannot be seen, and these circumstances are of the first importance for comprehending the import of the appearance in question. The term "contour lines" originated with Professor Owen, I believe, and implies the general similarity which these have with the contour of the tooth. The contour of the two, however, is not identical, for the markings (in whatever part examined) are more divergent than the outline of the tooth; and, passing from within outwards, abut in succession upon the external surface of the dentine. In comparing the absolute contour of any tooth, it will be found that the angle formed by its sides is more acute at its summit, or the summit of any particular cusp, than the contour markings within.

In viewing the specimen with transmitted light, it will be seen that a series of dark opaque granular patches are arranged immediately within the enamel and *crusta petrosa* in the outer portions of the dentine. In the crown of the tooth they are not continuous, and do not form an uninterrupted layer, but are separated from each other by intermediate portions of normal and well-formed dentine. These patches are more or less club-shaped, with the butt-end of the club towards the surface, and the pointed or attenuated end stretching obliquely inwards and upwards, towards the pulp cavity. These patches are so irregularly defined that, unless viewed with very low powers, their outline can scarcely be said to have any describable shape. When, however, they are slightly magnified, or seen without a microscope at all, they appear to be convex on the outer and upper margin, and straight on the opposite side. The upper margin and outer extremity are the darkest and most defined; the lower margin and inner extremity are jagged and ill-defined. The little elements of the patch are very interrupted towards the inner extremity, but are scattered in a direction upwards and inwards, and are lost. The contour marking is then taken on by a dark linear streak, which passes nearly in the same direction as the patch, with a slight curve, towards the pulp cavity. The nature of this line does not appear with low power; it merely looks as an opaque streak, more or less dark and defined. The *patch*, as I have observed, is most marked near the surface of the tooth; the *line* near the pulp cavity; and, where they join, they are both indistinct, and sometimes not to be discerned.

The relative *direction* of the contour markings is curious and interesting, and the examination of it, in the different regions of the tooth, is particularly important. Czermak does not notice this; indeed, his figure, drawn to display the general arrangement, only exhibits a very small portion of the tooth—not enough for the purpose —and what is shown is faulty, and only approximative.

For the particular description of the course of a contour marking I will select the region just below the neck of the tooth; they are there peculiarly indicative of their character and meaning. In passing from the surface of the tooth to the pulp cavity, the contour marking makes a double curve, like the letter *f*, and precisely resembling the primary nerves of the dentinal tubes in that region. In passing from without inwards, the first curve presents a convexity outwards and upwards, then bending in the opposite direction, the convexity looks inwards and downwards, and, as the line almost reaches the cavity within, the curve still continuing, it passes almost perpendicularly up the side of the pulp cavity, sometimes apparently joining the line above it. Now, it will be seen that the curves of the contour marking not only resemble the primary curves of the dentinal tubes, in a general way, but that they are exactly the same in the amount at any particular spot, and always opposite in direction; as the tubes bend in one direction the contour markings bend in the opposite, so as to cross the former almost strictly at right angles; and this may be stated as a rule—*that the curves of the contour markings are in proportion to the primary curves of the dentinal tubes at any particular spot, and across them at right angles.* In the crown and fang the contour markings are simpler and less curved. In the crown they are more horizontal, and, passing above the pulp cavity, meet over its summit. Here the markings are very short. In the fang they are almost vertical, and nearly parallel with the inner and outer surface of the dentine. The lower ones are usually very ill marked, and though they can be traced for a long distance up the fang, as they slowly approach the pulp cavity, they are indistinct and interrupted.

Contour markings vary in intensity and number; they are most abundant in the root and most marked in the crown. In the root, though very numerous, they are often scarcely visible. In the crown, when the line is well marked, it is always bounded externally by the opaque-patch; but between these there are frequently others less marked—in such instances, lines without patches at their extremities.

In teeth, with more than one cusp, the upper contour markings are confined to their own cusps, and their extremities abut against the sides of those cusps; but the succeeding ones join the markings of the contiguous cusps.

The contour markings are also well seen in a transverse section of a tooth, especially about the neck. Here they are represented by a series of concentric rings,—a horizontal section cutting the successive markings at different distances from the pulp cavity. In this view Czermak likens them, not inaptly to the year-rings in wood.

I would here observe that the contour markings are dark by trans mitted light, and opaque white by reflected. When mounted in Canada balsam, with continued heat, so as to allow the specimen to soak in the fluid resin for some time before it cools, or when mounted in some liquid, the reverse is the case. The same also happens when decalcified specimens are mounted wet. It is the white opacity of the extremity of the contour markings that produces the appearance of rings on a tooth-fang, already referred to.

Decalcified specimens exhibit further points concerning the contour markings. In preparing these specimens I first make the section accurately, as though for mounting in the ordinary way, I then decalcify it by submersion in the dilute muriatic acid. It is impossible to make even and regular sections by cutting the softened tooth, and I therefore always make the section before I decalcify it.

A vertical section thus prepared will be seen to exhibit the contour markings strongly.

If such specimen be hooked about with needles, so as to break it up, it will be found to tear in successive portions in the direction of the contour markings, the tear usually being the line of the marking itself. By this means the specimen may be broken up into series of triangular portions—the triangle being formed by the external surface of the dentine and any two neighboring contour markings; the base of such triangles is outwards, and the attenuated apex is inwards, and drawn up the sides of the pulp cavity. These triangular slips thus produced are the intermediate portions of normal dentine, situated between the contour marking. Even the well-formed dentine tears readily, but it is parallel with and in the same direction as the contour markings. Transverse sections decalcified break up into a series of concentric rings, beautifully and exactly regular: it is not easy to tear out complete rings, but they are partially separable, and are indicated in great numbers; indeed their number seems to be limited only by the mechanical means employed to isolate them. Now, the breaking up of a vertical section into triangular imbricated slips, and of a transverse section into a series of rings, is tantamount, in the entire tooth, to a stratified or laminated arrangement; indeed, considering the circumstances, as they bear upon the solid tooth, they indicate its compositions (in one point of view) as a series of *hollow cones* adapted one upon the other.

Czermak notices the stratification of the dentine and speaks of the strata being loosened from each other: he says, "I have succeeded in breaking off whole layers of tooth-substance, which had perfectly smooth surfaces." He considers that the splittings of the tooth substance are by no means a resolution of the structure into its original elementary parts. He further says: "The ground substance has certainly a stratified composition, but this is usually latent as it were." It is fair to observe that the lamellation of dentine, as exhibited in decalcified teeth, was first pointed out by Dr. Sharpey, in the tooth of the Cachalot whale. It is most readily seen in the teeth of large mammalia, (elephants, hippopotamus, &c.), but its import is better understood in smaller teeth, where its relation to the entire organ can be contemplated at once.

I may here point out a fact which, if it has been noticed, has, I believe, hitherto escaped recording; at least it has never been distinctly expressed. It is that the contour markings, as well as the fracture lines, which so readily occur in the intermediate normal dentine, and are parallel to them, exactly correspond to the pulp and internal dentine surface at any particular time of growth. In contrasting such a section with a series of one-cusped teeth in different stages of advancement, this will easily be recognised; the portions of dentine seen between the contour markings, in viewing the tooth from above downwards are, as it were, the successive increments by which the organ is built up, and by which the original expanded cap of dentine, as it first appears, is converted into an elongated cylinder with a tube up the centre.

I have dwelt thus much upon this point, as I have presently to show how the contour marking is produced by a condition common to the entire growing surface of the dentine at one time.

Having said thus much of the general arrangement of the contour markings, I will describe their anatomy as displayed by higher microscopical scrutiny.

Two hundred diameters will suffice for the magnifying power. When the patches are thus examined they are seen to consist of globular masses of dentine, more or less isolated by interspaces, as they are less or more confluent one with another. The dentine globules ("tooth-substance balls," as Czermak calls them) are spheres, hemispheres, or partial spheres, usually of normal dentine, and traversed in the usual way by dentinal tribes. Their size varies immensely, from

1-400th, 1-300th, or even 1-250th of an inch, down to the particles of granular dimensions; even 1-10,000th of an inch in diameter; indeed there seems no limit to their minuteness. When cleanly mounted the outline of the globules is beautifully sharp. The interspaces between them vary in form according to the number and size of the globules that bound them. In contemplating a large interspace one sees the globules and partial spheres bulging into it, some bright and clear, others looming indistinctly out of focus. Sometimes the interspaces are reduced to mere semi-lunar lines of extreme tenuity. Dentine globules are largest in the crown of the tooth, and smallest in the fang, especially near the cemental surface; indeed, in the latter situation, in passing from the surface towards the pulp cavity, they regularly enlarge, but while they increase in size they become more fused together, the globules are less spherical, and the interspaces proportionally smaller.

I would here remark that the interglobular space (as ordinarily observed in teeth extracted, allowed to get dry, and subsequently cut into sections), are truly hollow and filled with air. This Czermak has enforced.

The relation which the dentinal tubes have to the dentinal globules and the interglobular spaces, is interesting and remarkable. The globules are permeated by tubes exactly as the other dentine; the face of a large globule sometimes exhibits as many as five or six tubes traversing it. Now, in following an individual tube across a mass of globules, one observes it follow a regular course, just as if there were no interspaces: one follows the tube across one globule, then, skipping the interspace, one finds it crossing the next globule in a line with its position in the first, and so on. There seems an evident continuity. In specimens in which the interglobular spaces have been filled with Canada balsam, I have seen (as I have believed) the dentinal collapsed upon the sides of the interspace, establishing the continuity. Kollinker has seen more than this, for he says that, in decalcified specimens, the interglobular spaces are sometimes filled with a soft substance, which is traversed by tubes, and "these may be entirely isolated like the dentinal tubes." Though I have looked for these I have not seen them, but of the fact I cannot doubt when stated by such authority, especially as I have observed what amounts to the same in a different phase.

In linear portions of the contour marking, this is explained in four ways:

First, by a series of secondary curves in successive dentinal tubes; secondly, by the dentinal tubes being locally widened; thirdly, by interglobular spaces. The two first, though producing the same general appearance when seen with low powers, are, I believe, essentially different from the contour marking dependent on abnormal calcification.

The interglobular spaces which form the contour line are usually a few scattered semilunar streaks, when seen with high power. Sometimes these become confluent, and they then form a narrow line or interspace not wider than a dentinal tube. This latter I have not seen described. Not unfrequently, however, it is impossible to find any anatomical change, even when examined with the highest powers, in the dentine that exhibits a contour opacity; and I can only imagine that a difference in density of such a layer, relative to contiguous layers, probably dependent on its contents respectively, may possibly produce it. Such an explanation is quite in keeping with the rationale of the other element of the contour marking.

The explanation of globular dentine, and indeed of all the circumstances of the contour markings, is to be sought, and is to be obtained, by examination of the pulp or inner surface of the dentine, especially of growing dentine. This is the great point of Czermak's paper.

To obtain a specimen for examination, Czermak directs that a tooth (not completely formed) should be split, and then the section ground from without inwards until sufficiently thin, the pulp surface never being allowed to touch the stone; the preparation is then to be mounted with the inner, unrubbed surface supine. The appearance of such a specimen is thus graphically, and, as I can testify, most accurately described by Czermak:

"The tooth-substance appears then on its inner surface, not as a symmetrical whole, but consisting of balls of various diameter, which are fused together into a mass with one another in different degrees, and on which the dentinal tubes, in contact with the germ cavity, are terminated. By reflected light one perceives this stalactite-like condition of the inner surface of the tooth-substance very distinctly, by means of the varied illumination of the globular elevations, and by the shadows which they cast. Hence one has evidently to do with a stage of development of the tooth-substance; for the older the tooth is, the less striking in general are these conditions, and the more even is the surface of the wall of the germ-cavity. In very old teeth considerable unevennesses again make their appearance. These, however, are not globular, but have a cicatrized, distorted appearance. It is best to make the preparation from a tooth of which the root is not perfectly completed. With such preparations one is readily convinced that the ground substance of the last-formed layer of the tooth-substance appears, at least partly, in the form of balls, which are fused among one another, and with the balls of the penultimate layers; and one also perceives that in general their diameter becomes less and less somewhat in the form of a point, towards the periphery of the tooth-substance. The majority of these balls are pierced through by one or more tubes, crosswise, from within outwards. Very frequently, however, they appear homogeneous, and contain no tubes."

I will only add, from my own observation, that the globular surface is hardly so general as Czermak implies. Often one sees a considerable area that is even and flat, and destitute of globules. The large globules are always traversed with tubes: those not traversed by tubes are always small. The globules on the germ surface of secondary dentine are small and tubeless; they are often very minute.

I have found it much easier to obtain specimens than the plan proposed by Czermak, by procuring a tooth of which the fang is half-grown, then introducing the point of a penknife into its open extremity, and scraping the inner surface. Small portions may be detached, which exhibit the globules admirably.

Another method of obtaining specimens, which further illustrates the internal surface of the dentine, is the following: In rubbing down a section of a tooth, as the operator approaches the pulp-cavity, the last film of dentine frequently bulges into the unresisting cavity, and, instead of grinding up into particles, comes away in a little sheet, a little film of dentine parallel with the pulp-cavity's surface, the innermost layer, and the one last formed. This should be carefully preserved and mounted. On viewing such a specimen by transmitted light, one sees the globules scattered about—some isolated, others more or less confluent; and between them a pale, rather indefinite structure, uniting the whole into a sheet.

Now, in Czermak's specimen, one sees only the stalactite-like surface of the pulp-cavity, and the prominent inner globules do not appear connected; whereas, in specimens obtained as I have just described, they are seen to form part only of the innermost layer of dentine. Upon close inspection, by transmitted light, it is found that the globules are composed of well-formed consistent dentine, traversed by patent tubes, the open extremities of which are presented to the eye. The tissue between the globules has a somewhat similar aspect; but the tubes appear shrivelled and collapsed, or are not indicated. The innermost layer of secondary dentines, viewed under similar circumstances, presents the same general aspect; but the globules are tubeless, and the intermediate tissue appears homogeneous.

But the most instructive specimens are to be obtained from the very thin cap of dentine found upon the fœtal-pulp. The thin edge should be cut off and examined on the inner surface; it should be moist, and never allowed to get dry. In such specimens the globules are very apparent; but, as Czermak observes, they do not appear superficial but in the substance of the dentine. This he has not explained; but I have observed that, by gradually depressing the focus of the microscope, the first object that meets the eye is the ends of the columnar pulp-cells adherent to the surface of the dentine. As the focus is carried deeper, these appear more or less fused together, and more remotely the dentine assumes a consistent and definite structure. It is here, in the moist specimens, that the focus reaches the globules, and, consequently, there is no superficial stalactite-like bulgings of globules. It is only in dry specimens that that is seen. Now, if such a specimen be steeped in dilute muriatic acid, so as to remove all the earthy materials, the globules instantly vanish, and the dentine, where they were seen, assumes the same aspect as that where they were not seen. No other change is produced. The existence of the globules, therefore, seems dependent upon the presence of earthy material. This suggested to Czermak the idea that the organic material of dentine is, during the calcifying process, impregnated with earthy salts in globular forms, and that, by a deeper degree of calcific impregnation, the whole tissue is imbued with the hardening element, and the globules are fused. Such a doctrine is capable of explaining all the circumstances of the case; and we have only to imagine an arrest of calcification at the globular stage over the surface of the pulp as it exists at any one time to explain all the phenomena of the contour markings.

In teeth which have been allowed to get dry, one would imagine that those portions of dentine which have calcified would retain a consistent form, while the uncalcified animal material would shrivel up. Hence the stalactite-like appearance of the pulp-cavity's walls, and hence also the inter-globular spaces in a dried tooth. I have shown that, in the innermost layer of dry dentine, the globules are held together by an attenuated tissue, in which the ends of dentinal tubes are indicated. Again: the contour lines, which exhibit no inter-globular spaces, but which are continuous with imperfectly calcified globular patches, may be imagined to be themselves dependent on deficient lime impregnation. The integrity of such deficiently-hardened dentine would be seriously interfered with by getting dry; hence, probably, one reason why decalcified dentine so readily tears along these lines.

Now, the idea that the contour markings are produced by an imperfect supply of calcarious material is consistent with other collateral circumstances. Upon that idea one would imagine that other tissues besides dentine, dependent for their maturation on lime impregnation, and the other teeth, would suffer at the same time—that is, believing the effect to be produced by a general vice of nutrition; and such, indeed, is the fact. The enamel almost always suffers at the precise spot where the globular patch abuts upon the surface, rendering it irregular and rocky; and it will constantly be found that these appearances are observable on many teeth of the same individual—not at the same spot on all the teeth, but at places corresponding with the different degrees of development which the various teeth would have attained at one particular period. Why the dentine should be thus aborted, so to speak, at successive periods of its growth, and why, during intermediate intervals, it should mature perfectly, are questions which can only be explained by imaginary successive periodic conditions of depressed and healthy nutrition in the individual during the formation of such teeth.

CHEAP DENTISTRY AND ITS TENDENCIES.

BY PROF. JOHN ALLEN, N. Y.

THERE is a great tendency at the present age to cheapen every manufactured article. The manufacturer, in order to promote his own pecuniary interests, must sacrifice, in a greater or less degree, the interests of his patrons, for he employs inferior materials with which he constructs his fabrics. He also bestows less labor upon them to diminish the expense, and forms them more rudely, which requires a less degree of talent and skill. Hence we have many products like the Frenchman's, whose razors were not made to shave with, but to sell, and the buyer as well as the article purchased is generally sold. The dental profession is also tinctured with the same mania, and there are those who study more how to cheapen and lessen the value of their operations, than to increase their utility by superior excellence.

This destructive policy can be tolerated better in almost any other sphere than in dental practice; for, if cheap dentistry were to prevail, the tendency with the profession would be retrogressive. Science and art would be diverted from dentistry into other channels, for those who possess them would naturally seek more lucrative vocations.

The thorough education, the requisite amount of taste and talent, of art and science, which are necessary for a good practical dentist to possess, would yield him a better remuneration if employed in other branches of business; for it should be remembered that dental practice cannot be enlarged like that of a mechanic, a merchant, or a manufacturer, who can employ fifty, a hundred, or five hundred hands, while the operations of a dentist are limited to a few fingers; and yet those fingers, if skilled in manipulation, and directed by a competent mind, may do as much to ameliorate the condition of man as the mechanic or manufacturer, and justice would claim for him at least an equal reward.

Aside from charitable considerations, when dental services are rendered for a less sum than a fair compensation, they come under the head of cheap dentistry, which is considered synonymous with *poor* dentistry, and poor dentistry tends to create distrust and destroy public confidence, which would place dental surgery in comparative obscurity should it become universal. The cheap dentist is ever regarded as being below par in his profession by the community where he lives, for, let him place ever so low an estimate upon his services, the public will *mark* him still lower, and he is looked upon according to the level which he seeks; and after he has once taken his position and announced his rank through the medium of the public press, he will find it extremely difficult to change his grade should he subsequently wish to do so, for his *cast* is *fixed* and stamped with his own seal.

It is not the *cheapest* but the *best* dentists who are sought for by the major part of those who require dental aid; and the price is a secondary consideration. They require our best services, for which they are willing to pay a fair compensation, unless they have been misled by those who underrate the value and importance of dental operations when skilfully performed.

No, rather than pull down dental practice by cheapening and rendering it less valuable, let us strive to enhance its value, by aiming at a still higher degree of perfection; for it is more honorable and more lucrative to occupy an elevated position in the profession, than a low, grovelling one, that will ever be looked down upon with distrust.

To the Editors of The N. Y. Dental Journal:

GENTLEMEN :—

WHILE yielding to your solicitation for an "Article," I am prompted to confess that I do it, not so much through a pruriency to write, as I am stimulated by a sense of propriety in defending one of my "bantlings" which has been unfairly assailed by one of our profession at Oswego, N. Y., in the "fierce conflict" of antagonistic advertisement, as you will see by the enclosed No. of the *Oswego Commercial Times*. You will also observe a long and logical letter from Dr. Westcott, written with the evident spirit of fair and impartial umpirage and due deference to recorded fact.

With these brief preliminaries I will proceed to furnish to you the substance of a thesis by my brother T. C. Royce, read at the Baltimore College of Dental Surgeons, March, 1853, being the only written statement ever made by me or any of my students on the subject.

Yours truly,

W. A. ROYCE, D. D. S.

THE USE OF PURE TIN TO SOLDER TEETH TEMPORARILY, AND PERMANENTLY TO PLATES, AND AS LOAD TO LOWER JAW SETTINGS.

BY T. C. ROYCE, D. D. S.

WITH feelings of incompetency I attempt to advocate the use of a metal held by many to be totally unfit for the use which I have named.

Although it is not without objections, it has good qualities which more than redeem it, and render it worthy the fostering care of the Genius of Dental Science, whose benign influence has developed the incorruptible graces of form and color which characterize artificial operations of to-day, and exultingly reverts to the corruptible graceless blocks of ivory, carved with tedious toil to patch up mutilated humanity, yesterday!

Casting off as much as possible my sense of diffidence, and relying on your charitable indulgence in any errors I may offer, I proceed to state my views of the subject, offering as an apology for so doing the *necessity*, not the *propensity*, to write, which you, my worthy Seniors, have imposed on all who crave the honors of this Institution.

Pure Tin may be used extensively, with great convenience to both operator and patient, in constructing and refitting artificial teeth—used judiciously, causing no damage to the patient, and often affording comfort and service scarcely attainable by any other means now known. Popular knowledge of tin is almost entirely confined to one of its gross alloys or amalgams,—the tin plate of commerce,—iron coated with tin: but the scientific student will not stop here:—he will rather ask, *Why not* use tin? It resists the decomposing action of healthy saliva very efficiently is a well known fact, even though it be beaten to foil before lodged in a tooth,—a process calculated to weaken its resistance in proportion to the division of its particles. The filling instrument probably never unites the lamellæ of any foil as thoroughly as fusion—yet in my vicinity, three tin foil plugs are now worn that were placed in the sides of teeth for the gentlemen, and at the dates, as follows:

For Doctor Allerton, of Pine Plains, 1808.
For Capt. U. Lockwood, of Newburgh, 1809.
For Judge C. H. Ruggles, of Poughkeepsie, 1812.

Slight friction on any of them reveals the metalic lustre beneath the pelicle of brown oxide, and affords the satisfactory proof, that we have in tin an auxiliary, capable to dispute the digestive power of saliva, for over forty years, at least.

This immunity is traceable to three combined causes,—1. The inherent lack of affinity for oxygen. 2. The protection afforded to the subjacent metal by the thin coat of Protoxide,—as is the case with lead; and, 3. The exclusion from friction, in any material degree,—the plugs being located on the sides of the tooth.

My brother, W. A Royce, of Newburgh, has been in the habit of using tin, as solder and load, for the last 16 years, and from his many experiments, and rather extensive experience, we now practice these general rules, in regard to its use, and commend them to the profession:

Never use tin as a plate to lay on the gum, or over roots,—as the tin is corroded and rendered rough by contact with excoriated gum, or vitiated mucous coat. This enhanced power to corrode in the secretions of excoriated and ill-conditioned mucous coat of the gum, is often demonstrated on gold plate, of 18 carats' purity, and more uniformly on tin,—with latter metal often affording precise information of the location of some conflict between the natural and artificial parts,—especially convenient in lower jaw settings,—the parts being so difficult of inspection while the teeth are *in situ*.

Never use tin as clasps, unless, from the nature of the case, the teeth must be located and *fastened in situ*, by the dentist; the divergence or convergence of the clasped tooth, or some formation excluding the use of spring, or plate gold, and dictating the inelastic clip, must be used in lieu,—then a moderate thickness of tin, bent around a tooth, will confine a plate well, unless very frequent removals be resorted to, overcoming the tenacity of the clasp by too often repeated flexions.

Never use tin with silver, as their galvanic relation forbids it,—the silver being readily decomposed, and occasionally exciting profuse salivation, and keen stinging shocks of electricity.

With platina or palladium, we have had no experience. With gold we work principally by these rules.

If a small, short, lower plate of teeth be required to clasp adjacent teeth, or those quite near the artificial teeth,—make a plate of thin gold, about No. 28 to 30, to fit the cast of the gums; solder on clasps of appropriate qualities, with gold solder, cleanse in acid, rub with sand, and fit it to the mouth.

Select teeth that will permit as much space as convenient between them and the plate, especially on the crest of the gum, and inside; line with gold, generally No. 27 to 29; solder the linings with gold solder to the platina pivots: the teeth being laid in a flat tablet of the usual plaster and sand bath, enamel side down, and buried to the lined surface, by which convenient access to, and comparative security from fracture, by the flame of the blow-pipe, is secured;—cleanse in acid so as to remove the glass of borax, and oxidised surface; in this and all other cases where tin is to be applied,—(said glass being a barrier to tin solder,) sand off the velvet surface. By artificial articulation, or the patient's mouth; adjust the teeth to the plate, supported by wax; cast plaster around the out-side of the teeth, enveloping the plate; when set, remove the wax, and with tinman's soldering copper, heated just sufficiently to fuse tin readily, run on the plate and linings, a mass of pure tin, sufficient to equalize the surface, and restore the broken arch of the gum to near its original size and form; stiffen the plate duly, and thicken its edges, so as to finish up too bold to cut the gum, tongue, lips or integuments; file up prettily,—first, with about 10 inch round file, is most expeditious, or coarse brooch in lathe; rub the tin with sand paper until the surface is totally homogeneous;—remove the plaster and treat the labial border in like manner; polish with brush wheels and pumice, or rotten-stone; finish the gold surface with rouge, and the tin with glazier's whiting,—after which coat with pure gold, about 1 grain to each tooth or space of a tooth, *with Smee's Battery.*

The flux most desirable to solder tin and gold, is made by saturating muriatic acid with mitative zinc, and diluting the solution with about twice its measure of water. It is not very liable to be retained in the cooling tin, and cause cells to be exposed, when finishing the tin, as resin will often do. On a plain surface conveniently accessible, olive oil is a very good flux.

If teeth so made prove to have any mal-position, the correction is easy. The soldering copper readily makes one or all free again, and when repositioned, secures them easier than before. Should the plates prove too deep, or imperfectly fit the gum,—the tin being removed with the soldering copper, opposite the defective locality, cut off or bend the gold plate duly, and restore the tin,—thin plate now proving a decided accommodation, as it will yield topically, without disarranging the general fit.

Should a case require lengthy processes to reach clasped teeth, their gold plate should be proportionably thick, from No. 27 to 29, and no tin laid on them, or anything else that needs to, or is liable, to spring, as the amalgamated surface between gold and tin is hard and inelastic, and will disintegrate sooner than flex, either often or much at once. If a case of eight to twelve inferior teeth is to be made conjunctively, the thickness of gold plate should depend on the shape, size, and condition of gum, &c. If long teeth and broad round gum offer, the plate may be 29 to 30,—the more room for tin the less strength of gold being required. If the teeth have been recently removed, and considerable accommodation to changing gum is anticipated, better use No. 29 to 30. If a very thin gum, teeth long out, alveolus badly wasted, gum involved in folds and shreds of membranous integument, use quite thin gold, wide as can be endured while fitting the plate to the mouth; then, after soldering on the teeth, draw an inverted soldering copper along the edge of the plate, removing the tin 1–16th to 1–8th inch, or more, in width, reflex the gold plate outside the tin, with small hammer and pliers, and resolder; then finish, as before described, leaving no tin outside the reflexed gold.

Reflexed edges are generally desirable, but most especially so when the gum is deficient, and integuments more or less encroached upon by the plate.

The most important use of tin is, however, to be found in setting entire lower cases—here its every merit is enhanced, and the best results from its gravity secured, by which lower jaw cases are retained so well in their places as to dispense with the aid of the awkward spiral spring. The adjustment of the spring is difficult, its energies most active when least needed, as in closing the teeth, and *vice versa*, its friction is often tedious, expense considerable, and duration short.

Since the introduction of the first *entire* lower jaw made of tin and porcelain, in 1836, by my brother, he has used spiral springs to only four mouths, in a liberal practice, and in each of these only temporarily, or less than one or two years.

To secure the best advantages from this auxiliary, it is deemed generally essential that the teeth should be so arranged as to form plains on their antagonizing edges or crowns—that the breadth of the dental arch at the crown should not far exceed the arch of the crest of the inferior maxilla—that no bold point or cusp should project from, or be received by, the loaded case, tending to disturb its location, when the gyrations of the lower jaw occur.

The same reasons as apply in fractional cases should aid in deciding thickness and breadth of plate—operator should have in mind that whole jaws must have strength—must count on the emendations likely to be needed—expect to lose something of the thickness of his gold plate each time the tin is *entirely* removed, as it must be before annealing or soldering with gold can be resorted to. That thin gold only will reflex much or conveniently—that the tin is a very good strengthening agent, but incapable of constant flexion, and, where flexion is to be apprehended, the gold plate should be so thick as to prevent it. The gold plate being struck up of two thicknesses and soldered together, with gold solder, gives the most inflexible material and most easily obtained; and such is our general practice. Where a permanent fit is to be expected, for which we use plate No. 28, two pieces, each reaching from the base of the coronoid process to the location of the first and second bicuspid of the opposite side, thus rendering all, or nearly all, the anterior section of the arch double; the upper piece being narrowed before soldering, permits the lower to be reflexed conveniently, if cut wide. In finishing this or other cases, it is optional with the operator whether the whole tin is put on with the copper, or the plate and linings are only tinned over so far as it is desired the tin should extend, with the copper, and clean wax is made to support the teeth and represent the form and quantity of tin, and even its smoothness, after which the whole is to be buried in thin plaster. When set, the operator may cut a funnel-shaped gate to the wax, at either extremity, or the apex of the arch—heat the plaster hot enough to flow the wax all out, and pour tin, just reduced to limpidity by heat, in the chamber vacated by the wax, and he has a good soldering and neat casting, at once—his risks are, too much heat in drying the plaster, or in the tin poured, and the evil to be apprehended is amalgamation of the plate with tin.

When finished, as before described, these tin-loaded cases have a fine appearance, which can be preserved,—first, by preventing or removing the tin approaching too near the crown or the linings of the teeth; second, by reflexing the gold on parts excoriated by the fitting; third, by soldering a thin plate of gold over the tin, by means of tin, the plate being first struck up to fit the surface, tinned on both sides, placed *in situ*, and the external coat of tin,, fused fairly with the copper, secures the adhesion of the plate—after which scrape off the tin to the gold plate, polish and galvanize. Many settings of entire lower jaws, that never were galvanized, are now in use, and no complaints of "ill taste" were ever offered by the patients; but my brother always coated them when new, and a clean metallic surface presented, with a thin coat of white wax and gum mastic fused together, and which would *gradually* wear off and make the change insensible to the patient. We now use the galvanic coat in preference, as it is much more durable and beautiful.

During the last two years, we have used tin, as a solder, for temporary and some permanent upper cases—in temporary cases quite conveniently and advantageously, as the plates do not spring with the solder, and the teeth can be removed and reset *ad infinitum.*

The plate should be full thickness, if it is intended to be used permanently, especially so if it is used first temporarily—may be annealed, undergo all the ordinary manipulations, refitted, &c., if, after removing all the fluid tin, when heated just hot enough, the amalgamated tin is removed by scraping ; or decomposing it with hot muriatic acid, of ordinary strength, (the plate readily parts with the last vestige of tin, after such digestion) when it will be optional with the operator to solder with gold or tin. If tin is used, our brief experience does not approve it for upper permanent fittings, unless there be room to use it liberally, and strengthen with extra plate laid on the labial surface.

One more mention of the use of tin, and I shall have finished my task to the best of my poor ability.

In cases occasionally met, where a few artificial upper teeth in front have to antagonize the natural lower front teeth—where the contact may not properly be either on the cutting edge or against the plate, but *must* be at some place between those points, and often against the inclined plane of the linings—sometimes quite too near for porcelain to serve with requisite strength, or, if it would serve, cannot be had at the time and place wanted—tin serves with admirable convenience, though no other masticators aid it, applied thus : first, set the teeth in appropriate position, and solder with gold to the plate, then fill in properly the space along the linings of the teeth with wax—let the jaws be closed as desired, impressing the wax with the lower teeth—remove the case from the mouth—cut off all wax but such as represents an appropriate shoulder—cast plaster around teeth and over linings down to the wax—when set, remove the wax and fill its place with tin—and the case is supplied with the required resting-place, and may be finished in any style—gold plating being the best.

[We have samples of this style of work presented us by Dr. Royce, which may be seen at our office.—Eds.]

ARTIFICIAL DENTISTRY.—THE VULCANITE BASE.

BY C. S. P.

We do not propose in this article to *condemn* every other style of artificial dentistry, but to simply lay before the readers of the Journal some advantages which we believe the Vulcanite Base claims over those styles where metal is employed; and to do this we shall first refer to some of the objections peculiar to this latter substitute, viz.:

First. The irregular and injurious chemical, or electrical action in the mouth.

Secondly. The unyielding rigidity of an entire piece of metal work; and if a partial set, the fatal effects of clasps to sound teeth.

In relation to the first, we observe, that the galvanic action from metal in the mouth is much less in England than in America, and is less there, in the cooler portions of the country, than in the warmer or more southern states. This is readily accounted for, from the fact, that in warm climates more persons suffer from acidity of the stomach, fœtid breath, dyspepsia, &c.; consequently, many in warm climates have always ready in the mouth the elements of a strong battery, and by inserting a plate, either an alloy of gold or other metal, the chemical action is established, and serious results often follow.

Of the second objection to metal, the facts relating thereto seem to be so well understood by the public in this country, that a large number at the present day, prefer paying yearly for a set of ivory, rather than submit to the rigid feeling of an entire piece upon metal, or the harsh and unpleasant sensation of clasps upon their natural teeth.

In considering the propriety of using any particular thing as a base for artificial teeth, we hold that no dentist will be far from right if he places the interests of his patients on a par with his own.

While he has an eye to their comfort, he may lessen his own labor. If he gives a serviceable and durable material, he may save in his own pocket the price of a gold plate. As his reputation is valuable, he can husband it, by replacing gold for silver and the "cheoplastic," or the vulcanite for gold and bone, or even a more useful material for either, if such is to be obtained; and thus let his patients feel that he has done the best for them in his own judgment.

If a dentist has a large class of patrons within one circle of acquaintance, and he supplies them with a style of artificial dentistry which is easily broken by accident or otherwise, little or no consideration will be given to the fact that every possible pains was taken to make it comfortable and permanent; but his reputation is ruthlessly assailed, and as with a whirlwind, the influence of that circle is swept into another channel.

Improvements in dentistry avail but little to the patient, if employed solely for the purpose of "economy of expense and time to the operator."

The first consideration should be in regard to the *welfare* of our patients. If they are to be benefited by any professed improvement, then it will be profitable for the operator to adopt it. It is not too much to say, perhaps, that the VULCANITE BASE claims both these advantages, as experience is constantly proving, to a certain extent, among men of reputation, both in London and the provincial towns throughout Europe; and these advantages are founded upon the following facts, viz.:

The material of this base is indestructible in the mouth—is non-electrical—a non-conductor of heat and cold—pleasant to wear, and always fitting correctly. It is also free from the iron-banded rigidity, and unpleasant sensation peculiar to metal; and clasps of the same material are made in connexion with a piece, as correctly adapted as though moulded upon the natural tooth. No loss of time or greater expense is incurred by using the vulcanite than if gold or bone were used, while every part of the process, when once understood, becomes interesting, and even *fascinating* to the skilful operator.

These positions or claims can, however, be better proved, or disproved, on trial, and by those who have worn metal and have afterwards substituted therefor the Vulcanite Base.

We shall not discuss, through this Journal, any point regarding the expense at which this improvement is offered to the profession; nor, to any extent, the matter relating to restrictions combined therewith; for we hold that such points should be settled in the mind of each dentist, according to his estimate of its comfort, and his desire to maintain a respectable position among his patients and members of the profession, who have already adopted it exclusively in their practice. Some, however, have entertained fears that the vulcanite work would tend to lessen the prices of dentistry; but we reply, that such a result can only follow from indiscretion on the part of the operator in his method of introducing it to his patients. The fact that it possesses superior advantages greatly beneficial to both operator and patient, is no argument in favor of a reduction of fees; for assuming this fact, and taking it for granted that there is comparatively no outlay in the manipulation, we see no reason why the dentist should not be paid the same amount, as willingly as though he had used the most costly metal. Some patients cannot, however, understand this reasoning, until they are offered a duplicate plate of gold without the teeth (and without extra charge), in addition to the one made on the vulcanite. *Such* liberality will generally silence fault-finders.

In conclusion, we sincerely trust that no one will attempt to use this improvement, until fully convinced of its value, as a base, over any metal or other substitute now known ; for unless the dentist has a proper estimate of its worth, he will find it quite impossible to recommend it fairly. Advertisements of work, "at the lowest possible prices," cannot be expected to gain for their authors a very high position among those who *know* the worth of their services, while that time-honored individual, "public sentiment," continues to appreciate good and careful operations; for certainly that style which is worn with the greatest comfort, and proves most durable, will, and must be adopted for general use.—*British Journal of Dental Science.*

A FEW PRACTICAL HINTS TO PARENTS.

BY DR. H. CRANE, N. Y.

I WISH to call your attention, for a few moments, to a subject that is neither popular nor agreeable, but necessary to the health, happiness, and to some extent, the prosperity of ourselves, and those with whom we are associated; and, in so doing, I wish it to be distinctly understood that I am pleading the cause of humanity, uninfluenced and unbiased by any motive not compatible with truth and justice.

If you have children, the admonitions herein presented may apply with peculiar force; if you have none, you are amenable to friends for some of their views of social economy.

The subject which I propose briefly to discuss is very little understood (as I can furnish ample data to prove) by our citizens generally. Vague notions, without any particular theory, are followed out, which result disastrously to those we cherish with parental love. Now, my object is to save the precious little gift, bestowed by God, from a calamity designed for the aged only, if designed at all.

Your children are raised in the unhealthy atmosphere of the city, or are subjected to the bleaching process—a cruel concomitant of city inactivity—consequently, there is more or less derangement in all of the functions of life; and this derangement is, perhaps, more perceptible in the teeth, for the reason that they are constantly before our optics.

All children, I believe, are blessed (or cursed) with teeth. They number, previous to the age of six years, ten on the upper jaw and ten on the under jaw—twenty in all.

These twenty temporary teeth should remain in a healthy child without decay, until the complete absorption of the fangs, so that a thread could remove them. This, unfortunately, is the case with few at the present day; but they more frequently decay and cause severe pain, which renders premature extraction necessary. To prevent this necessity, I have practiced filling the temporary teeth for my own and some of my neighbors' children for a number of years, and am satisfied that this is the correct treatment.

Between the ages of six and eight years—and this is the point to which I desire to call your particular attention—the first permanent double teeth appear, two on the upper jaw and two on the lower jaw.

These frequently decay within a year or two after they make their appearance, and should be filled for the following reasons: 1st, They cause the most intense suffering previously to and in extraction; 2d, They never appear again; and 3d, They are necessary to a complete set, and to mastication, without which no person can expect to enjoy the full vigor of life. Eight more double teeth in addition to the twenty, and the four previously alluded to that take the place of the temporary, complete the set, thirty-two; and who can estimate their value! Go to that young lady who wears a complete set of artificial teeth, and ask her! Speak to her of the daily, aye, hourly mortification she experiences with a denture so necessary, so conspicuous, so valueless when compared with the natural. Let her tell you the misery she experiences in the presence of some dear friend to whose confiding trust she dares not withold any secret of her pure heart; and ask her, also, to place an estimate on a beautiful set of teeth. Ask California to estimate the value of her gold! or Heaven to estimate the importance of her principles!

Or go to that young friend of yours who has neglected her teeth until past help, the odor of whose breath is a perpetual and unceasing taint to the surrounding atmosphere. Ask her to place a value on a set of beautiful teeth! And yet it is gravely stated that they cannot be saved. This opinion is probably made up from a too familiar acquaintance with those who claim to be members of our profession, but who lack the qualifications necessary to make it honorable to themselves, or useful to their credulous patrons. It is an easy matter for a man of ordinary capacity to qualify himself, theoretically, for the profession of dentistry, but it is not so easy to reduce his theory to practice.

I have had students in my office who were better qualified in six months to *practice* the mechanical branch of the dental art, than some practitioners of twenty years' standing; while others have labored assiduously for years, and finally gave up the business in disgust, from a want of the ability to succeed. The reasons are plain and unequivocal. There is an intuitive genius in the organization of some minds that seems to comprehend the whole field of mechanics at a glance, while others of equal ability in another department are wholly lost in the labyrinth of infinitessimals; and here I will add, that no man can become an efficient operator, without an exhaustless fund of mechanical erudition. But why cannot teeth be saved during life? One says, "Because my mother or father lost their teeth when young." Another says, "Because I eat so much candy." Another says, "Calomel destroyed my teeth," or, "Dr. Hugle filled them and destroyed them."

These reasons would be good had they not been a thousand times overthrown by contradictory testimony. There is only one answer necessary here to these declarations—scrupulous cleanliness and the best dental manipulations.

Teeth that are filled at an early stage of decay, before the enamel becomes thin, and consequently liable to break under the power of mastication—can be saved during life, with proper regard to cleanliness, and the dentist of undoubted skill and integrity. But in order to obtain this end, the dentist must not be neglected. He should be consulted not less than three times each year by persons under twenty years of age, and twice by those older, for the reason that the teeth may decay in other places than those filled, or the enamel may become fractured in some place contiguous to the fillings.

No tooth can be permanently preserved with fillings, unless they are inserted so solid, at every point of the cavity, as to resist the force of mastication; and yet, there is scarcely a day that passes that I do not see fillings inserted by *the most competent* dentists, that will not bear the test of an instrument without yielding. These are what we term *cheap fillings*, and only subserve a temporary purpose. The question should be, then, first and last, *who is honest—capable*, in the department of dentistry, not who recommended him, or what are his ideas about Mormonism or spiritual rappings. Upon your choice of a dentist, and the subsequent care you take, depends an organ of greater importance to your comfort than can be realized without its loss.

It is now over twenty years since I began the practice of dentistry, and I have never seen a more reckless disregard of public good than is this moment manifest. Charlatanism of the very worst description is resorted to in order to obtain private and selfish ends. Inducements are held out (to catch a penny) that no person could fulfil with credit to himself and justice to his patron, and pay for material and rent, and this every competent, well-disposed dentist will not hesitate to acknowledge. My motto is this: If teeth are appreciated and worth saving, *I will* save them, and no person ever paid or ever can pay the full value for such services. If teeth are not thus valued, I never desire to see them.

To be sure I am told that it is a very lucrative profession. Be kind enough then to show me a rich dentist. "Dr. —— of ——," you may say. We'll admit it. He married $50,000 of up-town property, which is now worth $300,000. But show me another? You can't, eh? Neither can any one else, unless he has experienced a similar "wind-fall." Say no more then about the lucrative profession of dentistry.

I have a word more to say to those who have lost their natural teeth, or any portion of them.

In this department the quality of the work ranges from a common wheelbarrow manufactured by the farmer with his axe, saw and auger, to finely polished furniture, and the quality of the material will admit about the same latitude of comparison. A dentist can insert artificial teeth at a fair profit, at fifty cents for each tooth, or he may lose money at four dollars, and the difference exists in the quality and quantity of the material, and the amount of labor bestowed; and yet the former may appear equally well with the latter upon a superficial examination. So look out, you who are fond of saving the dimes, and save yourself the trouble of paying for your teeth a second time. One of the greatest comforts that we possess in this world is teeth. Consequently, those who have lost this comfort should seek the nearest possible substitute, which is as much for health as for any other consideration.

Teeth are now inserted to be useful for purposes of mastication. The spiral and all other springs are entirely abandoned by us, and the new principle adopted (atmospheric); and such is the perfection to which we have arrived, that we are able to guarantee all cases to be not only firm in the mouth, but useful for mastication, for restoring the voice as well as the contour of the face, and we make no charge for even a contouring, if a failure.

Now, my young friend, I desire to say one word to you (and grey hairs may look on if disposed.) Did you ever admire a beautiful set of teeth, as radiant as pearls? You have. Well, that is all that I desire to know, for I think that I can say something to your advantage. Your teeth can be preserved equally beautiful, with proper care in season.

Ugly shaped and singular are they! Have the irregularity corrected, and have a due regard to cleanliness, and I will promise you all of the envy that a modest person could well wish. But, let me ask you, do you use a hand brush once every twenty-four hours, with some innocent powder, (soot, charcoal, or cuttle-bone) that will not injure your teeth? If you do not, first have your teeth thoroughly but carefully cleaned with an instrument,—for every powder that will remove tartar will ultimately destroy the tooth, if frequently used,—after which apply the brush once a day, and the powder as often as is necessary, to prevent the accumulatien of tartar.

Editors New York Dental Journal:—

By the numerous circulars received by us in relation to the various vulcanites for dental plates and gums for artificial teeth, each claiming to be superior to the other in this, there seems to be a disposition manifested to outdo each other in their pretensions rather than set forth the real merits of their several productions. This is well calculated to excite doubts in the minds of all as to the propriety or safety of employing these materials. The American Hard Rubber Circular informs the profession that the Goodyear's Patent covers the vulcanizing of all gums and their admixture; however this may be, one thing seems certain—if Goodyear's patent plaster mould, patented March 4th, 1851, is valid, this seems to settle the whole question of the right. This patent consists in the employment of plaster, or any combination of plaster and soap-stone or other porous granular substance for investing the gum, for two purposes: *First*, to hold the gum in its proper form; and, *second*, to allow the gases to escape in the process of vulcanization. This patent, as we are informed, stands entirely disconnected and independent from all other patents granted to the Goodyears, and seems indispensable in the production of plates and gums for artificial teeth.

It is a matter of the utmost importance to the profession that those intending to employ vulcanite in their practice should not only select the best of the gums, but that they should, if possible, avoid the liability of vexatious and expensive suits at law for infringements.

What the relative merits of Hard Rubber Companies with Gutta Percha may be, time alone must determine,—the former having been in use about four years, and the latter about one. The comparative ease in putting up sets of teeth by this process, and the almost certain adaptation, will doubtless make it popular with the profession generally; and we trust the high hopes entertained of its durability will be fully realized.

It cannot be denied that all the processes heretofore used are more or less difficult and uncertain in their results. In this new (vulcanite) process, a perfect model is really all that is material to ensure a perfect fit to the parts. It appears strong, and, so far as we are able to judge, is admirably adapted for plates for artificial teeth and for regulating teeth, &c.

A SUBSCRIBER.

MESSRS. EDITORS: It is with feelings of no ordinary regret that we learn, from the last number of the *Dental Register of the West*, that steps are being instituted to organize a National Association of Dentists. Every member of the dental profession who is actuated by a disinterested desire to promote the general interests of its members in all parts of the country, cannot but question the propriety of this movement.

The American Convention was doubtless organized upon the true basis for ultimate success and usefulness, its platform being sufficiently broad to admit all. Those who are young and inexperienced can ask and receive wisdom from those who have grown grey in service; they can give without being impoverished, while the poor are made rich indeed. One of the most pleasing recollections of the meetings of the American Convention has been the willingness on the part of the most eminent of its members to impart useful practical information to others; thus laboring to elevate the masses to usefulness and respectability. Any other National Convention, on a representative basis, would only call together comparatively few of the most talented, its only object being to make the Convention more exclusive. Inasmuch as our profession is made up of all grades of individual characters and degrees of professional qualifications, it seems to us that the American Convention, organized as it is on the principle of a mass meeting, is most happily calculated to accomplish the greatest good.

The idea of two National Conventions existing cotemporaneously is an absolute absurdity. One or both must ultimately cease to exist. The tax upon the time and means of its members, extending over our wide and increasing domain, would prevent the profession generally from attending two annual gatherings of its members.

The American Convention having met the expectations of its noble founders, and proved itself eminently practical and elevating in its tendencies and influences, is entitled to the confidence, encouragement, and support of every one who really desires to see our profession occupying an honorable position in the estimation of an enlightened public. A narrow-minded exclusiveness is entirely incompetent to the great task to be accomplished; the high walls of prejudice existing between educated refinement and professional qualification on the one hand, and ignorant pretension on the other, must be broken down; those in high positions must "stoop to conquer;" they must descend from their well-earned position, and aid, by the weight of their commanding influence, to elevate the masses, who are recognized by the public as belonging to the same profession with themselves. The law of self-preservation here must be exercised; they must save themselves by saving others; the ship is leaky, and it will hardly answer to wrap the cloak of individual dignity about one's self, and let all go under. No title of D. D. S. will avail here; the eternal law of equilibrium is in force; cause and effect are still as traceable as ever. Then let us rally around the standard of the American Dental Convention, on whose ample folds are figuratively written Equality and our Common Brotherhood.

B. W. Franklin.

640 *Broadway*, *New York*,
June 12*th*, 1859.

Messrs. Editors: Much has been said and written upon lateral pressure of the teeth, and the trouble and difficulty arising from cutting the wisdom teeth. The following, if you think it worthy of notice, please give space in your valuable journal:

Miss T———, eighteen years of age, residing in North-east, was confined to her room and to the bed very much of the time for three months. On one of my visits to that place, I had occasion to call upon the family of the above; and hearing the case stated, I ventured to suggest to the family my ideas in reference to the cause of the whole trouble, which I thought proceeded from the wisdom teeth, not yet through the gums; indeed, it was impossible for them to show themselves, and I thought that the cause of her sickness would be removed by the removal of those teeth. They, however, were not prepared at that time to decide in the matter, and it was submitted to the family physician, who decided at once that I was in error in the case, and still continued to treat the patient for a nervous difficulty,—as he was pleased to call it, St. Vitus' dance; and so she suffered for about three months longer. She, in the meantime, became so much reduced as to be unable to leave her bed. I was finally called in, and immediately removed the two wisdom teeth. From that moment she began to recover, and is now in perfect health. The moral of this case, if applied, will induce all members of the medical profession to occasionally defer to the opinions of their brothers of the dental science.

C. A. Thompson.

Westfield, *N. Y*

Report of a Meeting of Dentists, held on the evening of June 25th, 1859, at No. 57 Bond Street.

CALL.

New York, 1859.

Whereas, Preliminary movements have been made in some sections of the country to change the American Dental Convention into a representative body; or, failing to make such change, to organize at Niagara Falls another National Association, to be composed of delegates from local societies already existing;—and

Whereas, New York and the Eastern States having no such organizations, the profession in these States would not be eligible to a seat or voice in said so-called *National* Association:

Therefore, The *Dental* Profession of the City and State of New York, and Eastern States and towns, are cordially invited to meet at No. 57 Bond Street, on Saturday, June 25th, at 8 o'clock P. M., for the purpose of expressing their views in relation to the contemplated change.

Pursuant to the above call, a large number of the profession met at the rooms appointed. The meeting was called to order by Dr. F. H. Clark, who was appointed chairman, Dr. George H. Perine as Secretary. On motion the call was read, and commented upon by various gentlemen present. Dr. George Colburn, of Newark, moved that New Jersey be added to the call, as a State having no local association, and therefore liable to suffer from any such action as is therein mentioned—motion accepted. A motion was then made and carried, that the Circular published in the *Dental Register* for June, 1859, be read to the meeting. The Circular was therefore read by the Secretary, as follows:

A CALL.

The undersigned, practitioners of Dentistry, believing that a National Association of Dentists, composed of delegates from State, county and local societies, and dental colleges, would be calculated to promote the best interests of the profession, respectfully suggest to the Dental Societies and Colleges throughout the country, the propriety of electing delegates to meet in convention at the Falls of Niagara, on the first Wednesday of August, 1859,—for the purpose of forming, if the assembled delegates shall deem it expedient, a National Association, upon a representative basis:

Pennsylvania.—*Philadelphia:* J. De Haven White, Wm. W. Fouche, Daniel Neall, S. L. Mintzer, J. H. McQuillen, J. Foster Flagg, Jas. E. Garretson, Joseph R. Jefferies, C. A. Kingebury, George T. Barker, Louis Jack, D. B. Whipple, Wm. Gorges, D. H. Goodwillie, David Roberts, J. Gilliams, Jas. M. Harris, C. C. Williams, C. M. Pierce, T. L. Buckingham, Henry Townsend, Charles Woodnutt, S. Dillingham, Charles E. Hopkins, Andrew J. Watson, Wm. Calvert, A. R. Johnson, J. J. Griffith, G. M. Barstow, Spencer Roberts. *West Chester:* Josiah Price, Jesse C. Green, E. P. Worrall, C. M. Valentine. *Chambersburgh:* J. L. Snesserott, Wm. F. Front. *Wilkesbarre:* C. S. Beck. *Columbia:* S. Atlee Bockins.

OHIO.—*Cincinnati:* Charles Bonsall, James Taylor, H. R. Smith, J. Taft, B. D. Wheeler, J. G. Cammeron, J. Richardson. *Cuyahoga Falls:* C. P. Bailey. *Warren:* C. Palmer, J. C. Burroughs. *Ravenna:* B. F. Spellman. *Cleveland:* B. Strickland, W. H. Atkinson, B. F. Robinson, B. A. Holliwell, W. P. Horton, T. S. Slosson, Charles R. Butler. *Oberlin:* J. F. Siddall. *Painesville:* S. P. Huntington. *Sandusky:* E. J. Waye.

MICHIGAN.—*Detroit:* C. F. Knowlton, J. A. White, H. Benedict, S C. Whiting, Wm. Cohoan, J. H. Farmer, G. L. Field.

INDIANA.—*Indianapolis:* John F. Johnston, P. G. C. Hunt, G. C. North, T. M. Nichols.

ILLINOIS.—*Chicago:* E. A. Bogue, T. P. Abell, Jas. Ketchum, E. Honsinger, L. P. Haskell, Frank B. Ferris, P. W. Ferris, W. W. Allport.

MISSOURI.—*St. Louis:* H. E. Peebles, A. Blake, W. A. Jones, D. L. Levett, Henry Barron, Isaiah Forbes, C. W. Spaulding, Charles Hanover.

MISSISSIPPI.—J. H. Andrews.

Drs. Colburn and Hawes desired to be enlightened as to the intention and probable results of the above call. Dr. Franklin spoke upon the probable effect of such a proceeding, as being in his view objectionable, and tending to the injury, if not the dissolution, of the American Dental Convention, and thus, obviously, towards the prevention of much good to the profession. In his opinion, the result would be to form an exclusive and sectional body, leaving out of its deliberations a majority of the States having no local associations, including the State of New Jersey, (by request.) Dr. John Allen then rose, and desired to know what objects could be furthered by the proposed organization, not already effected by the American Convention; he was satisfied that the present Convention had been productive of much good, and should be supported. Dr. Franklin moved that a committee be appointed to draft resolutions expressive of the sense of the meeting upon the question before them. The motion was carried, and Drs. Franklin, Blake and Allen appointed by the Chair. The Committee then retired to deliberate. Dr. Burrus then spoke in favor of individual representation, conceiving that each dentist could best represent his own interests, and thus the good of the profession would best be promoted. He also expressed himself strongly in favor of the present Convention, and disapproved of any change in its organization. He considered that the present movement was intended to alter, if not to destroy, the American Convention, and strongly deprecated any such action, as being not national, but local and sectional. Dr. Burrus then read to the meeting an article published in the *Dental Register* in favor of the present Convention, its usefulness, power and various benefits. Dr. Rich then spoke of the original intention of the American Convention, as being an organization tending towards the benefit of the mass of the profession, and as being harmonious in its deliberations, and forming a platform for the expression of the opinions of the profession at large. He did not, however, see that the movement at the West could possibly change or disorganize the Convention. Dr. Rich considered that while the Convention should be supported strongly by its members, he did not see that it at present needed any extra aid, being fully able to stand upon its own bottom. The Chair did not understand that any section or locality could have power to affect the position of the American Convention. Dr. Perine than spoke in favor of the present association, alluded to the small number of local societies existing, and their being confined to western localities. Thought the movement was premature, although he would be prepared to support a delegative body when the number of associations should have increased. At present he reprobated any change. Dr. Clay did not see the necessity for any immediate action on the part of the meeting. Dr. Burrus thought that some expression of opinion was necessary. Dr. Hurd, of Williamsburgh, rose and deprecated any action until the meeting of the Convention at Niagara, when he proposed that the profession should go prepared to express their sentiments. Dr. Roberts endorsed the sentiments of Dr. Hurd, and hoped an ample delegation would be present at the Convention to represent New York and the Eastern States. It was here announced that an arrangement was pending with the railroad companies and hotels, through which the profession would be enabled to attend the Convention at reduced expense. The committee now returned, and presented the Preamble and Resolutions. After some debate, and slight changes in phraseology, the resolutions were adopted.

On motion of Dr. Burrus, the report and resolutions adopted at this meeting were ordered to be printed in the *New York Dental Journal.* The meeting then adjourned *sine die.*

RESOLUTIONS.

WHEREAS, There is a disposition manifested on the part of some members of our profession to change the American Dental Convention from its present form to that of a representative body—

Therefore, RESOLVED, That it is the opinion of this meeting that there is no evidence that a necessity exists at this time for any such change, or that any National Convention or Association, composed of delegates embracing a fractional part of our profession, could possibly subserve the purposes and objects aimed at by the founders of the American Dental Convention.

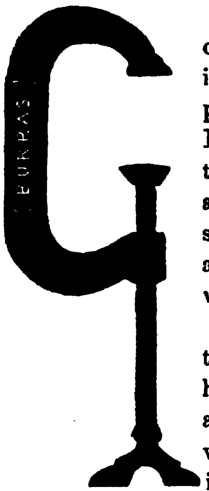
Resolved, That this meeting has entire confidence in the principles upon which the American Dental Convention was organized; that we feel certain that the benefits anticipated from its deliberations are being realized and appreciated by the profession in general, for whose improvement it was instituted, and upon whose efforts will depend its ultimate usefulness and perpetuity.

Resolved, That it is the duty of every dentist who desires the advancement of the profession, to attend the Convention at Niagara Falls, and use his influence against any action tending to dissolve the American Convention, or to create any delegated organization.

B. W. Franklin, *Chairman.*

The meeting was well attended, and considerable unanimity shown concerning the question before it. During its deliberations reference was made to the resolution of the Pennyslvania Association of Dental Surgeons (for which see page 182 of this number). On the part of the *New York Dental Journal*, we take pleasure in stating that we *strongly endorse* the action of this meeting. From personal knowledge, we are justified in considering that this movement is calculated at present to do great injury; and we urge the profession in this section of the country to make a stand, and at all cost to support the American Dental Convention in its present purity.—Eds.

EDITORIAL.



The accompanying cut represents a valuable accessory to the *dental laboratory*, in the form of an instrument which most dentists who do their own plate-work will readily recognize. The inventor, Dr. T. H. Burras, of this city, desirous to save the *profession* as many *raps* over the *knuckles* as possible, has given us a *cut* to represent that instrument, which he calls a *Retain*. It is considered an excellent auxiliary in the manipulation of plate work, by all who have used it.

This Retain is used for holding an upper plate on the cast, after the palatal arch of the plate has been hammered to its proper position, when both plate and cast are firmly held in their relative position, while the outer or alveolar ridge of the plate is being hammered down to its proper situation. That part of the Retain having the screw is placed upon the under side of the bench, the plate and cast on the bench, under the upper end of the Retain. It is then screwed firmly down, and the outer portion of the plate is drawn or worked down upon the cast with the mallet or hammer, and a suitable piece of hard wood. Dentists who have been accustomed to hold the plate with the thumb or fingers upon the casts while forming them, will duly appreciate the value of this little appendage.

We would draw attention to the advertisement in this number of a dental practice for sale; to those desiring to change their locality, we can recommend it as an eligible opportunity.

It is with much pain that we learn of the misfortune which has befallen Mr. J. M. Laird, his dental depot having been forcibly entered on the night of the 12th inst., and goods to the amount of $700 abstracted therefrom. As this is a very serious loss to Mr. Laird, we would suggest that those of the profession who can afford it should extend to him their patronage.

Those of the profession in this city, who are desirous of attending the Convention at Niagara Falls in August, are invited to send their names at the earliest moment to the editor of the Journal, as arrangements are being made to secure for all such tickets to the Falls and back to this city, at reduced rates of fare. We also hope to be able to provide for all comfortable hotel quarters, if the names are sent in on or before July 20th.

A Curious Suit.—The Bangor *Whig* says that a queer case of malpractice was tried at East Corinth, Me., a few days since, before H. K. Dexter, Esq. Mrs. Eliza Butler, of Charleston, brought a suit against Dr. Phipps, of Bradford, to recover damages, "for that the said Phipps, for the consideration of fifty cents, agreed to extract for her, the said Eliza, a certain decayed tooth, situate in the upper jaw; but the said Phipps, by his negligence or ignorance, did not so remove said unsound tooth in pursuance of his contract, but instead thereof extracted a sound and valuable tooth, to wit, of the value of $20." The defence was, that the lady fainted during the operation, and the instrument slipped on the wrong "grinder." M. B. Bragg testified that Dr. Osgood, of

Bangor, pulled by mistake a sound tooth for him; and Drs. Thompson Fuller, and Waterhouse said that with nervous patients such mistakes were liable to happen. The lady did not discover the loss for some days, when the "old ache" came back. The magistrate gave a judgment for the defendant.

Disease among Hatters.—At the meeting of the New York Medical Association on Monday evening, an interesting report was made in regard to a disease prevalent among hatters in this vicinity, in which the Committee to whom the subject was referred stated that, in the preparation of some kinds of stock mercury is employed, and that the salivation, sore mouth, tremors, and febrile reaction, are entirely due to the effects of this deleterious agent.

OUR DENTAL DEPOTS.

Premising that the office of the *New York Dental Journal* is, of course, the grand head-quarters of the profession in this city, and that its friendly doors are open from 9 A.M. until 10 P.M., while beneath the shadow of its outspreading wings social *Denticos* "*most do congregate*"—prefacing with the annunciation of these well-known facts, we wish to draw the attention of the profession, here and abroad, to our various dental depots, laboratories, &c.

And first, we would mention the old established and well-known firm of Jones, White & Co. This establishment has latterly much increased its business, having agencies in all the principal cities of the Union. Mr. John D. Chevalier has obtained an enviable reputation as a manufacturer of dental and surgical instruments. Mr. John Biddle also deserves favorable mention at our hands, for his efforts in the same line. Messrs. Sutton and Raynor are enterprizing men, and have established a fine trade; they will furnish the profession with block and rubber teeth, made to order to suit cases. Mr. J. M. Laird has been long and favorably known as an accommodating and hard-working man. Of

Dr. Crowell it is needless for us to speak; he is already well and favorably known to the profession. We would next refer to Dr. E. A. L. Roberts, who has much reputation as a mechanician and inventor: Dr. Roberts makes a speciality of platina plate; he has also patented a heater for vulcanizing; it has, apparently, considerable merit, and particularly in its qualities for saving fuel.

We come now to the dental laboratories, and would first refer to Messrs. Franklin & Sproull, who, as young men and new beginners, deserve the support of the profession. These gentlemen manufacture continuous gum work, exclusively for the trade. This has become quite an institution: many dentists have neither the time nor the inclination to attend to their own artificial work; and where it is being constantly made, it creates much more satisfaction, both with the patient and the dentist. The vulcanite dental laboratory of Dr. B. W. Franklin is at all hours the scene of busy action; this style of work has of late grown to such popularity, that Dr. Franklin has been obliged to open an independent laboratory for its production. We might go on and extend this article to an unlimited degree, but space will not permit; and we will close with a word in favor of Dr. D. H. Porter, formerly a manufacturer in this city, and now located in Bridgeport, Conn., where he is constantly making some of the best teeth and blocks in the market. They can be found at several of the above-named depots.

At the annual meeting of the "Pennsylvania Association of Dental Surgeons," Oct. 5, 1858, the following resolution, presented by Professor McQuillen at a previous meeting, was adopted:

"*Resolved*, That two or more of the Association shall be elected delegates to the *American Dental Convention*, with instructions to suggest the expediency of the convention becoming a delegative body, composed of representatives from State and County Dental Associations throughout the Union."

In consequence of our acquiescing in the above resolution to change the character of the American Dental Convention in our last number, we have received numerous communications from members of the profession in different parts of the country adverse to such change, and these as well as our personal intercourse with dentists, and our own calm reflection, and more mature judgment, have led us to believe that, at this time, the move is impolitic, inasmuch as the Middle and Eastern States have no organizations, and consequently could not participate in the deliberations and benefits of a National Convention, composed of delegates from local organizations. It is evident to our minds if this change is made at the gathering at Niagara, it will be justly regarded by many as an effort calculated to create a sectional spirit of rivalry, and divide our common interests by geographical lines. The South and South-west being tolerably organized, and being foremost in this movement, will have a decided advantage, so far as numbers go, in the Convention for many years, while our intimate and friendly relations with the profession in the South and West, preclude the belief of any design on their part to control or monopolize. Yet, we fear, others will take a different view, and if so, prevent the good that would naturally flow from the change under other circumstances; indeed, we cannot see how it can escape the charge of being a sectional movement. We hope our brethren in the West will take these circumstances into consideration, and waive this change, and defer any other national organization, till it shall be more in harmony with the wishes of the profession throughout the whole country.

THE annual meeting of the Western Dental Society was held at St. Louis on the 11th of January, 1859. The following were elected officers for the ensuing year:

Dr. H. E. Peebles, President.
Dr. A. Blake, Vice-President.
Dr. D. L. Levett, Secretary.
Dr. J. Forbes, Treasurer.

Executive Committee—Drs. C. W. Spalding, W. A. Jones, A. M. Leslie.

This Society holds its meetings monthly. It will be remembered that the next annual meeting of this Society will be held at Milwaukie, Wis., on the first Tuesday of July. We have not as yet received the order of business. It is to be hoped there will be a large gathering, assuring all who attend not only an intellectual, but a *good* time.

THE ANNUAL MEETING OF THE MISSISSIPPI VALLEY ASSOCIATION was held at Cincinnati on the 23d of February, 1859.

Officers elected for the ensuing year: Dr. Geo. W. Keely, President; Dr. H. R. Smith, Vice-President; Dr. J. Richardson, Corresponding Secretary; Dr. Geo. Watt, Recording Secretary; Dr. Chas. Bonsall, Treasurer.

Executive Committee—Drs. H. A. Smith, E. Collins, L. B. Hatch.

Committee on Membership—Drs. S. Wardle, J. P. Ulrey, J. Taft.

Committee on Dental Progress—Drs. H. A. Smith, W. R. Webster, Geo. Watt.

Committee on Irregularity—Drs. H. R. Smith, J. Taylor, Charles Bonsall.

AMERICAN MEDICAL ASSOCIATION.—The annual meeting of this Association was held in Louisville, Ky., on the 4th of May. From the reports, we learn that the attendance was large. The following officers were elected for the ensuing year:

Dr. Henry Miller, of Kentucky, President; Drs. H. F. Askew, Delaware, Charles S. Tripler, U. S. A., L. A. Smith, New Jersey, Calvin West, Indiana, Vice-Presidents; Dr. Caspar Wister, Pennsylvania, Treasurer; Dr. S. M. Bemiss, Kentucky, Treasurer.

Among the resolutions presented was the following from Dr. J. B. Flint: Resolved—That a committee be appointed to coöperate with the profession in England in their intention of erecting a monument to the memory of JOHN HUNTER.

Drs. Flint, Bowditch, and Shattuck, were appointed.

The next ANNUAL MEETING will be held at New Haven, Conn., on the first Tuesday of June, 1860.

[WE give below the circular of the Fifth Annual Session of the "American Dental Convention." We beg to add to its expressions our own advice to the profession to attend, and, with full intention and desire, to work. We propose to be present ourselves, and to do our best towards aiding the objects of the meeting.—Eds.]

Augusta, Ga., June 1st, 1859.

Dear Sir: "The American Dental Convention" will hold its Fifth Annual Session at Niagara Falls, commencing on Tuesday, the second day of August next, at ten o'clock A. M.

At this you are respectfully and cordially invited to be present.

As every faithful and *true dentist* must feel a deep interest in the advancement of his profession, and an earnest desire that it shall stand second in rank to *none* of the learned professions, it is expected that each one will encourage every movement calculated to enlighten and improve the great body of "practicing dentists" throughout the country. And, believing that the various "Dental Societies," and *especially* the "American Dental Convention," will do much towards elevating the profession, and thereby prove a powerful auxiliary in attaining the desired object, it is hoped that you will cordially and earnestly coöperate with us.

Yours, very respectfully,

D. S. Chase,
Corresponding Secretary.

[We would request attention to the following Call, and would here record our sincere hope that something may come of it worthy its importance. We have so often and so fully written upon the subject that we do not deem it necessary to advert farther to it in this connection. The Call speaks for itself, and any sensible man in the profession cannot but see the necessity of some such establishment in this State. We propose to devote ourselves heart and hand to the interests of this undertaking, and shall use pen and tongue to the best of our ability in its behalf.—Eds.]

NEW YORK STATE DENTAL CONVENTION.

The undersigned, members of the dental profession in the city of New York, conceiving the many and great benefits that must arise from an association of its members throughout the State, in the spread of information, the encouragement of industry and originality, and the promotion of good feeling; and recognizing the healthful progress and advancement of similar associations in other States, would respectfully and cordially invite the dentists of the State of New York and adjoining States, to meet in the city of New York on the 6th day of September next, at ten o'clock A. M., for the purpose of discussing and agreeing upon the organization of a State Association.

And it is hoped that all those who take an interest in the progress of science and the well-being of their profession, will cheerfully comply with this request, and that such a meeting shall be gathered together on this occasion as shall lay the foundation for an edifice which shall last as long as the dental profession shall possess that community of interests which induces the present movement.

NEW YORK.

J. Smith Dodge & Son,
F. H. Clark,
Benj. Lord,
B. W. Franklin,
T. H. Burras,
L. Covell,
H. Crane,
A. C. Castle,
S. W. Judson,
E. D. Root,
J. S. Ware,
G. H. Perine,
Geo. Clay,
J. G. Ambler,
John Allen,
A. M. McIlroy,
Geo. Smillie,
Wm. T. La Roche,

and about fifty other names; but space will not permit our giving them in full. We here give a few names appended to the list of Brooklyn and Williamsburg.—Eds.

BROOKLYN.

H. N. Stratton,
C. A. Marvin,
J. C. Munroe,
J. Branique,
S. W. Bridges,
H. J. Merrick.

WILLIAMSBURG.

Wm. B. Hurd,
E. Cheney,
T. E. Trendelenburg,
L. H. Twitchell,
R. T. Ambler,
Wm. C. Parks.

NOTES.

THE editor of the *American Journal of Dental Science*, in a late number, takes the trouble to reflect rather severely upon the language of one of our editorial corps, at the "Indiana State Convention." While we agree fully with the *learned* EDITOR in the abstract, and consider that proper language should be used at all times and in all places, we would offer as an excuse the general informality and conversational nature of these meetings. And we offer this excuse, not because we consider that the *learned* EDITOR has the right to demand it, or to elect himself censor of our mode of expression, but simply because, by some accident, to us inexplicable, he is in this instance right. But we strongly suspect that the feelings of the *learned* EDITOR were more hurt by the *matter* than the *manner* of our discourse. We remember a story of a jury of Hibernians who tried a man for murder, and brought in this verdict: "*We, the jury, find Dennis Monroe not guilty of murder, bekase the man wasn't kilt afther all; but he stole a sheep from me last Octhober, and desarves to be hung anyway, be jabers.*" Thus, if the *learned* EDITOR were placed upon the stand under oath, he could not swear that we misused the "King's English" of malice aforethought; but he might safely assert that we (to use language forcible if not elegant) are most decidedly DOWN on "*Cheoplasty*," and so "*desarve to be hung anyway.*"

APOLOGY.—In our last number appeared sundry errors, for which we are desirous to offer an apology. By the mistakes of some compositor, laboring under temporary hallucination, a noted member of the profession out west was made to announce the interesting fact that he was desirous of retiring from his practice *with* between five and six thousand dollars per annum, instead of *worth* that amount. Our friend McQuillen had the orthography of his name transposed in such ways as its own mother could not recognize it, and various other similar changes were made, more ingenious than proper.

NEW TEETH.—Our friend Jones, of the firm of Jones, White & Mc Curdy, has shown us some new teeth manufactured by them, which surpass any that we have before seen. They present a most life or bone-like appearance, mellow and soft, and are just what the profession have long needed. Mr. Jones informed us that they would very soon be prepared to furnish all orders for the same.

Messrs. Lindsay and Blakiston announce:

"A System of Dental Surgery, by John Tomes, F.R.S., D.D.S., &c., Author of "Tomes' Dental Physiology." 1 vol. 8vo., with 208 illustrations.

There is no man in the English profession who occupies as high a literary position as Mr. Tomes, and we warmly welcome this new production of his pen.

"A Practical Treatise on Operative Dentistry. By Jona. Taft, D.D.S. 1 vol. 8vo., illustrated.

To the American profession it is unnecessary to refer to Dr. Taft's high position and capabilities.

Aluminum cast Plates.—Quite a number of our correspondents have made inquiries relative to this metal and its workings. In the *Annual of Scientific Discovery* will be found interesting information. This metal was first used and introduced to the profession in England, and was recommended highly by Dr. Harrington of London, who invented a method of casting this metal, and read a paper on the subject before the College of Dentists, October 5, 1858, and gave the result of his experience as follows: "It stands well; there is no taste or unpleasantness of any kind from it; and it does not appear to decompose or be otherwise affected by the saliva of the mouth upon it: in fact, to my mind, in this respect, it leaves nothing to be desired."

Dr. Van Denburgh of Oswego, New York, also claims to have invented and perfected a method by which the obstacles to its employment are overcome, and that he is now enabled to cast perfect plates. He claims that aluminum is perfectly adapted to meet the requirements of a metal for plates for artificial teeth, it being lighter, can be made perfect and is stronger, easily kept clean, is tasteless, and does not tarnish in the mouth.

With the new improvements in mechanical dentistry that are being presented, we prophesy a revolution in this department of our profession.

A NEW method of making aluminum, we learn from the *Scientific American*, has recently been patented in England by F. W. Gerhard. It consists in placing fluoride of aluminum in an iron oven, which may be heated in various ways. This oven is first strongly heated, and on the floor thereof is placed a number of shallow dishes. A number of these dishes are filled with dry and well powdered fluoride of aluminum, and the remainder with iron filings. They are so arranged that all of those dishes which contain the fluoride are on all sides surrounded by dishes containing the iron filings. The oven is then closed and luted, and the heat increased to redness; after which a stream of dry hydrogen gas is introduced. The effect produced is, that the hydrogen gas combines with the fluoride and forms hydrofluoric acid, which acid is taken up by the iron, and is thereby converted into fluoride of iron, whilst the resulting aluminum remains in the metallic state in the bottom of the trays containing the fluoride.

RECEIVED.

WE beg to acknowledge the receipt of a fine lithographic view of Central Park from our friend Dr. Larcher. Such presents are always acceptable.

Boston Medical and Surgical Journal, June 9; American Journal Dental Science, April; Dental News Letter, April; L'Art Dentaire, May; Twentieth Annual Commencement of the Baltimore College of Dental Surgery, 1859–60; Dental Register of the West, June; American Dental Review; Dental Enterprise.

IF any of our readers have No. 1, Vol. 1, of the Dental News Letter; No. 1, Vol. 1, N. Y. D. J., and No. 12, Vol. 4, N. Y. Dental Recorder, and are willing to spare them, they will oblige us by mailing to our address.

NOTE.—It will be seen that several of our advertisers have removed their places of business, in accordance with the general practice in New York of "moving" on the 1st of May.

ITEMS.

A LITTLE child was holding a very animated conversation with one about its own years, a few days since. A portion of it was overheard, and it appeared to be a dispute as to what their " mothers could do." After naming over various meritorious acts of which their maternals were capable, the one in question put an end to the dispute by exclaiming, " Well, there is one thing my mother can do which yours can't—my mother can take every one of her teeth out at once."

IT is published that several young ladies in New Orleans are studying dentistry. We suspect their object is to get near the gentlemen's lips.

PLATINA NUGGET.—A mass of platina, weighing eleven pounds, from the mines of Oural, has been recently presented to the Mineralogical Museum, at Vienna, by Prince Demidoff. This is the largest mass of this metal yet discovered, except that at the Academy of St. Petersburg, which weighs seventeen and a half pounds.

THE nomination by the Institute of France of Professor Owen of England as one of its eight foreign members, in room of the late Robert Brown, was confirmed by a decree of the Emperor on the 7th of May.

A DANBURY (Conn.) bootmaker has successfully extracted a set of teeth from the mouth of a rattlesnake with a pair of pincers. A new *fang*-led operation that!

OBITUARY.

WE are pained to record the melancholy and untimely end of Benjamin F. Maguire, of this city, which took place on Saturday, May 14th.

He left his country residence on Shrewsbury river for a sail to this city, and reached Coney Island; but, while making fast his boat to the dock, fell over, and his feet becoming entangled in the rigging, he was unable to extricate himself.

Dr. Maguire was a nephew and student of the late John Burdell, and succeeded him some nine years since in a well-established and lucrative practice, which he steadily increased, and at the same time acquired an extensive and elevated reputation as an operator. In private life Dr. Maguire was modest and unassuming, as in his professional career; he died at the early age of thirty-two years, in the prime of life and health, and at a period when his position was established, and enviable prosperity attained. Besides his immediate family, consisting of his estimable lady and one child, he leaves his father's family, to whom he ever proved himself a dutiful and affectionate son and brother.

Dr. Maguire also leaves behind him a large circle of friends, who will ever regard his memory with the warmest sentiments of affection and esteem,—and among these we are proud to include ourselves; and we feel a melancholy pleasure in knowing that we shall carry to our graves a memento of his skill as a professional man, besides the memory of his character as an honorable member of our profession.

Another death of one more widely known makes a break in the ranks of our profession, and the great army of life, that many births will not close up. In the late decease of Dr. Spooner, not only has the profession in which and for which he labored so long and arduously lost an able and worthy brother; not only has the large circle of his friends, and that more intimate circle of his own family, lost an affectionate relative and kind-hearted associate; but the world of art, and science, and literature, have lost a modest and laborious student—a wise and competent teacher. Dr. Spooner was born in Brandon, Vermont, in 1809; he passed through the University of that State, and commenced the study of the dental science, to which profession he remained faithful during his life, being known as a skilful and hard-working practitioner. His early predilection for the fine arts received additional incentives as he grew older, and his mind and tastes expanded. To this predilection we owe the reproduction of "Boydell's Shakspeare Gallery," a labor which few can appreciate, and which proved a thankless one to Dr. Spooner. But not satisfied with this, he sought still further to add to American art literature, and published successively his "Dictionary of Painters and Engravers," and "Anecdotes of Painters, both works well known among literary men, and valued as books of reference. With the same unbending tenacity of purpose, he now sought to bring out the "Musée Française," as he had already reproduced "Boydell's Shakspeare." At great expense he purchased the old plates and imported them, but the enormous duties upon them were more than he could accomplish, and he made application to the Goverment of the United States to have them remitted. But who ever knew the United States Government to become generous, when the interests of art, and not their own, were at stake? They refused him, and after making every possible effort towards the same end in various quarters, he gave it up, losing the entire outlay of cost, while the plates returned to France. But his energies were not yet exhausted, and we find him turning his attention to the study of agricultural chemistry with all the vigor of his youth. But disease, which had held fast hold of him for twenty odd years, now drew tighter and tighter the bands, and at last he dropped asleep for ever, leaving behind him the character of an upright man, a correct thinker, and intelligent and able writer.

We are also informed by private communication of the death of Dr. B. J. Dudley, of Louisville, Ky. No mention is made of the time of his death.

THE

NEW YORK DENTAL JOURNAL.

OCTOBER, 1859.

SYRACUSE, Sept. 5th, 1859.

To the President and Members "in Convention assembled," at the Cooper Institute in the City of New York, for the purpose of forming a "State Dental Association."

GENTLEMEN:—I most heartily approve the object for which you are assembled. When I received and signed the call for this Convention, I resolved to let no ordinary hindrance prevent me from meeting with you, and rendering every aid in my power in furthering this project. But a late severe illness, which still renders it wholly imprudent for me to undertake the journey, compels me to forego that pleasure, and to substitute for my presence some hastily penned and necessarily crude thoughts upon the subject for your consideration, should the Convention regard them worthy this honor.

I have long been a believer in the power and efficiency of well-directed associated effort in accomplishing great ends, and every year's experience and observation have tended to strengthen this faith. More than fourteen years ago, in urging upon my professional brethren the claims of "*The American Society of Dental Surgeons*," I thus wrote . . . .* If, then, the task of reforming and elevating the dental profession must devolve upon the members, let us inquire with what vast engine are they to accomplish this great work. Upon this point let us consult the spirit and the successful enterprises of the age, and see whether we may not from these sources derive some important instruction. Than the age in which we live, none has ever been more signalized for great and important discoveries and achievements in every department of art, science and literature—none more, for great and successful moral enterprises; and none, in short, has ever been so characterized for those rapid and powerful strides of mind, in the accomplishment of the most magnificent undertakings, either in themselves considered, or in reference to their results. And what age, we inquire, has been so remarkable for *voluntary associated effort?* Nor do we regard these results as merely incidental, but as the legitimate operation of cause and effect. While on the one hand *such effort* has shown itself far more efficient than the same amount of individual effort, it may also be truly remarked, that as intelligence progresses and becomes general, assimilation of thought, feeling and desire necessarily advances till almost the inevitable result is, a uniting of forces with a view to overcome both physical and moral obstacles. And the resistless momentum of such a combination of living forces is beginning to be felt and acknowledged wherever its agency has been applied. The results of the efforts of many of these voluntary associations will ever be looked upon as the most splendid achievements of modern times. And it should be borne in mind, that this tendency to association is the necessary result of intelligence. That ignorance is decidedly anti-social, the history of the past most clearly shows. . . . . That a State association of dentists, properly organized and managed, may be productive of great good to the profession, both in elevating its standard and in purifying its ranks, there can be no doubt. The question, in my judgment, is not *whether* such an association should be at once organized, but simply and wholly *how* it shall be constituted—whether it shall have a constitution and by-laws for its government, prescribing qualifications for membership, or whether, like the American Dental *Convention*, it shall be open to all. A proper solution of these questions can be arrived at by first defining the *objects* of such an association.

---

* American Journal of Dental Science, for June, 1845.—Vol. 5, page 254.

These, as set forth in the preamble to the constitution of the "*American Society of Dental Surgeons*," as the ground-work of its constitution and by-laws, and as the motives for its organization, and which, I think, cover the whole ground, and are, moreover, well expressed, are as follows: (first,) "To promote union and harmony among all respectable and well-informed dental surgeons; (second,) to advance the science by a free communication and interchange of sentiments, either written or verbal, between members of the Society, both in this and other countries; (third), and in fine, to give character and respectability to the profession *by establishing a line of distinction between the truly meritorious and skilful, and such as riot in the ill-gotten fruits of unblushing impudence and empiricism.*"

If we take this as our programme of *objects*,—and I strongly doubt whether we can get a better one,—the question of organization seems to me a simple one. Of the *three* objects above set forth, the first two can doubtless be attained by organizing under the open convention system, perhaps as well as to have the association trammeled by any constitution or by-laws whatever. But in respect to the *third* or last object named, I have yet to see how it is to be accomplished, while *all*, the full-blooded empiric, as well as the devotee of science, are invited to *full and equal fellowship.*

A true answer to the two following questions, it would seem, must settle the general one of organization:

(1st.) Is it important to the well-being and respectability of the profession "to establish a line of distinction between the truly meritorious" and the impudent empiric? and

(2d.) Can this object be accomplished or approximated by any system of organization, and, if so, what?

I repeat, that I regard these as underlying all proper action, and should be considered with great care before any plan is decided upon. I beg leave, therefore, to offer a few suggestions in regard to each of them respectively.

To my mind the first question hardly admits of discussion. To contend that there is no call for making a distinction between the faithful, intelligent and skilful dentist, and the mere *toothsmith*, who is hardly whitewashed with *decency*, is as absurd as to contend that there is no call for distinguishing between true coin and the basest bogus imitation; between the genuine note, that is worth what it purports to be, and the worthless counterfeit, too vile for the sack of the rag-picker. Shall there be no *marked line* of distinction between those whose every act tends to elevate the profession, and those whose very breath tends to pollute it? If the Dental *profession* seek to make no distinction between its worthy and unworthy members, can they ask the *public* to do more?

But, lest I be regarded by some as too hasty in my conclusions, I propose to examine this question a little more carefully.

If we claim for dental surgery a place among honorable professions, we may get some light upon this point by consulting those professions, and inquiring how they regard this question of demarkation between the worthy, the qualified, and the mere pretender. In that one most nearly akin to our own, and which may, perhaps, be justly styled its step-mother,—the medical profession, not even the most obscure county society would, for one moment, receive into their fellowship one who could not show some *evidence* of qualification. Not only so; when any of their members, who have become such by proper credentials, disregard their constitution, their by-laws, or even their code of ethics, he is tried, and if found guilty has a mark set upon him. Does our *State Medical Society* seek to make no distinction between the meritorious and the empiric? If we consult either of the other learned professions we shall find that in the formation of all their associations strict reference is had to holding out *in bold relief*, such a distinction, as of the greatest importance to their respectability and well-being, nay, to their very existence.

If it be conceded that such a feature in the formation of a State *dental* society is an important one, then we are prepared to enter upon the discussion of the second question, viz.: Can this object be attained by any system of organization, and, if so, how?

This question of separating the "sheep from the goats" is one which is not confined to the dental profession, but it has, from time immemorial, equally disturbed the medical profession; and almost every expedient has been tried to bring it to a satisfactory solution. Formerly, stringent laws were in operation in this State, having reference to this object. These, from time to time, have been modified, till, at the present time, none whatever exist upon the subject, except the general one, applicable to every avocation of life, simply holding a man responsible for his own individual acts.

At different periods this question was most earnestly discussed by the American Society of Dental Surgeons, and at one time it was "resolved" to appoint an *agent* to procure laws from the legislature of New York to the end of drawing this dividing line between science and pretension. But this "resolve" was never executed: a slight exhibition of its impracticability (see Am. Journal of Dental Science, vol. vi., page 68) having changed the enthusiasm of their agent into vexation, the subject was dropped.

In considering this question we must take the dental profession as we find it. Of the whole number of dentists in the State or country, probably not more than one-tenth are in possession of any credentials whatever from any regularly organized college, or from any association, which would be entitled to any special consideration. In regard to the remaining nine-tenths, they are not only minus such credentials, but they have no reasonable mode of obtaining them,—no matter how worthy members they may be of the profession. Our dental colleges may provide for the *rising* generation, but, after a practitioner has already arrived at his meridian, will he (unless for an honorary degree) apply to a dental college for those credentials to which his skill and real merit might justly entitle him?

What the profession needs, and what it must have, before any real "line of distinction" can be made between the good and the bad, is some *umpire* reasonably within the reach of *all. There must be some way of assorting the practitioners already in the field.*

Now, in providing the machinery of this association, I would have it all arranged to accomplish this very end as one of its *primary* objects. I would have the present organization a temporary one, with the understanding that its ultimate object would be to create a successor, if you please, under the name and title of the NEW YORK DENTAL INSTITUTE.

Do you ask, gentlemen, how I would have this institute organized and managed, with a view to accomplish the objects named? If so, I will proceed to give you, in a crude form, the reflections which I have had upon this subject.

First, I would have this institute regularly chartered by the legislature of the State, and endowed with all the powers and privileges that should pertain to a well-regulated dental college. I would have a large board of trustees or directors, (say one from every senatorial district,) composed exclusively of dentists, empowered to hold personal and real estate to the amount of   dollars, with power to make all the necessary arrangements for providing suitable rooms and lectures, appointing examiners, issuing diplomas, and, in short, every power ever delegated to such a corporate body. The charter should *not*, as in the case of ordinary dental colleges, provide, or declare, that every applicant for a degree of Doctor of Dental Surgery "shall have attended two full courses of lectures, *the last of* *which shall have been attended in this institute or college," but should provide that every practitioner of dental surgery of years' standing shall be eligible to an examination, and if he is found competent by the board of examiners, and is of good moral character, he shall be entitled to the degree of Doctor of Dental Surgery from this institute, no matter where he obtained his knowledge and skill, whether in a college, or in a mud-hovel.*

Who will pretend that a competent board of directors, selected from different parts of the State, all interested in the welfare of the profession, would not be *capable* and *likely* to appoint a competent board of examiners, who would faithfully discriminate between the meritorious and unworthy? Would not such a board of examiners, wholly untrammeled and unbiased by the least pecuniary or other *interest*, save the elevation of the profession, be far more likely to institute a rigid scrutiny than those who have home interest to serve, and where there are many and strong motives to swell the graduating class to its utmost limits? Now, if such would in fact be the result, would not such an institute be entirely competent to draw that desirable "line of distinction between the well-bred and skilful dental surgeon, and the mere pretender?" And would not the diploma from such an institution be the best possible evidence of merit? Such I have no hesitation in avowing as not only my own firm conviction, but I regard it the only feasible course to bring about this desirable end.

We should have, in such an institute, an *honorable, legalized platform*, upon which *all* are invited to stand, who, by their qualifications, are worthy of the position.

Will it be said that the most worthy or eminent dentist, *not needing its honors*, would have no motive for becoming interested in such an institution? If it is true that these men act from no motives except those which may be embodied in, and represented by, the vulgar fraction of a dollar, then such an assertion may be true. But I am most happy to testify, that the history of the dental profession, and of its eminent members, for the last twenty-five years, wholly repudiates such an assumption. This history shows that those least needing such honors, those most eminent in our profession, have made by far the greatest sacrifices of ease, time and money to promote its best interests.

Select, if you please, fifty of the most eminent dental surgeons in the United States, and *convince* them that this platform is calculated to elevate the standard of the dental profession, and free it from the stains of empiricism, and my word for it, both their influence and their "material aid" would be cheerfully tendered to give it strength and perpetuity. In respect to those who have not already acquired a standing and eminence, but who are nevertheless worthy members of the profession, these will, for more reasons than one, find it for their *interest* to assist in rearing such an institution. Such men are not merely alike interested, with those above named, in elevating dental surgery as a profession, but such will find its *diploma of great and direct service in advancing their personal interests.* But this is by no means the limit of the benefits conferred upon the latter class, for while such an institution is securing the beneficent ends already indicated, it may and should, be made most emphatically *an institution of learning.* The charter should authorize the board of directors to furnish suitable apartments, and such a course of instruction as, in their judgment, the circumstances of the case, from time to time, should warrant or demand:—to fix upon a proper initiation and diploma fee, and for annual dues of its members; all of which to be expended in establishing and keeping up the institute. At the close of such lectures, or course of instruction, which should be free to every member of the profession who should fairly contribute to its support, let the examinations be conducted, and diplomas awarded to all applicants found worthy. This lecture season would become a substitute for the otherwise annual meetings of the association, and might be held from one week to as many weeks or months as might be deemed judicious in any given year. A part of each day might be devoted to what should be in all cases *volunteer* lectures, and the balance to practical discussions, or the exhibition of operations, either mechanical or surgical. At the end of each session let the transactions be published in a *volume* for the benefit of the members.

Without attempting further detail, I wish to express the full conviction, that such a plan may be devised and carried into operation, as will largely contribute to the great and desirable end of purifying and elevating the profession, and, at the same time, furnish a most valuable source of instruction.

But, perhaps it will be asked, what has become of the *society* or *association*, or how, out of all this machinery, are you to form "A

State Dental Society?" I answer, that as soon as five, fifty, or five hundred dentists are made members, either by actual examinations, or are, by the board of directors, chosen honorary members, then the association will number just so many members, and it matters very little by what title this *association* of men, thus formed, shall be designated. If it were confined to those who become members by virtue of an actual examination, it would properly be "An Association of the Alumni of the New York State Dental Institute."

While I am by no means opposed to State conventions, where *all*, good, bad and indifferent, meet on an equal footing in respect to rights and privileges, I do not believe that a *State Dental Society* would be worth the trouble of forming it, if organized on the nonrestriction plan. I cannot, indeed, see the least object or good to accrue from organizing an association in this way, which might not as well be gained without any organization whatever; or from simply a State *convention*, in the loosest sense of the term. If such an association should have for its basis some test of qualification or fitness of its members, what can be more simple and effectual than the plan I have thus hastily and imperfectly sketched? Such a plan of organization by no means interferes with any number of dental conventions which the members of the profession may choose to hold. Nor, on the other hand, will it in the least conflict with the true functions and prosperity of dental colleges. It has to do, mainly, or wholly, with those who in no way contribute to these institutions; while, on the other hand, I have no doubt that it would tend to disperse those prejudices against these schools, too frequently found in the rank and file of the profession. It not unfrequently happens that we find dentists affecting to despise college diplomas, when the only basis for such a feeling consists in the fact that they themselves are minus such credentials. They feel that they are too old to attend dental colleges, and too obscure to seek honorary degrees, and hence the fox's tone of derision is adopted to cover the ground. Give these men a reasonable opportunity to obtain such papers, from an honorable source, and the result would be that such feelings and prejudices would be supplanted by far more liberal views upon this subject.

A. WESTCOTT.

SUBMUCOUS INJECTION AS A CURE FOR THE TOOTHACHE OF PREGNANCY.

BY HORATIO R. STORER, M.D.

(From the Boston Medical and Surgical Journal.)

In a paper read before the Society for Medical Observation in February last, it was suggested that in certain obstetric cases, otherwise incurable, permanent relief might be had by a modification of the simple and easy process of Alexander Wood. As the remarks referred to were but incidentally made, in connection with a case illustrative of criminal abortion, and as the proposal itself seems to have been new to the profession, it may be worth repeating in more distinct form, and at greater length.

"Pains in the teeth," says Montgomery, "are with some the invariable accompaniment of pregnancy. Their effect upon the comfort and wellbeing of the patient is often very distressing. After all our endeavors, we shall find ourselves, in many instances, unsuccessful, and if not relieved, abortion may result."

Not to enumerate the long list of remedies that have hitherto been advised for the malady, it is only necessary to state that in certain obstinate cases they are all found unavailing; and that general practice and many writers have been in favor of proceeding to the extraction of a tooth; if which fail, some have been rash enough to counsel the deliberate induction of abortion. These acts, however, must be pronounced unjustifiable, both on moral and legal grounds, which I have elsewhere adverted to.

The toothache of pregnancy, as such, is not dependent upon caries, and if for scientific reasons alone, it should not be submitted to the usual treatment. Decay may undoubtedly exist, and in pregnancy caries of the teeth often does progress much more rapidly than at other times; but the affection we are now considering being purely sympathetic and reflex in its nature, dependent directly upon the uterine irritation, can seldom be relieved by the extraction of the teeth, whether they be sound or impaired.

Burns, Blundell, and others, acknowledge that extraction of a tooth during pregnancy may be immediately followed by abortion—a consequence that might readily be expected from so profound an impression upon a nerve just then in unnatural and excessive sympathy with the uterus; in much the same manner as abortion sometimes occurs, in consequence of intentional excitation of the mammæ, whose system of nerves is now allowed to be in intimate connection with the uterine. Be this as it may, however, from the fact of the occurence, and its risk —that abortion may ensue, and frequently has ensued, directly in consequence of the extraction of a tooth during pregnancy—we are compelled to assert that this very unscientific operation should always be avoided. To the argument that the pain, if unrelieved, might of itself occasion miscarriage, we should answer, even if we had no alternative to propose, that at times this neuralgic pain has suddenly and spontaneously ceased without interference; and that at others, however severely abortion may have threatened, it yet has not occurred.

But if the extraction of a tooth is to be reprehended in such cases, much more is the intentional extraction of the fœtus. The growth and moral tone of society, and the best interests of the profession, have already suffered too much at the hands of rash and meddlesome practitioners, who have thus abetted, however unintentionally, the spread of criminal abortion. We are plain in our statement, but unhesitating, for we believe that in much of the treatment of the nervous complications of pregnancy, whether evidenced by vomiting, convulsions, mania, or simply toothache, there is oftentimes, on the part of the attendant, a carelessness resulting in direct intra uterine murder; and that by the influence of such example upon the moral sense of the community, the frequency of the intentional crime is increased. The remark we have now made applies with equal force to much, also, of the usual treatment of difficult child-birth—to recklessness, by what authorities and however defended, in the use of the crotchet, the plug, and of ergot.

In considering the real character and cause of the toothache of pregnancy, it occurred to my mind that the operation which has of late been found so effectual in removing neuralgic pains from other portions of the body, would prove equally valuable when applied to the gums, and in practice I have found it perfectly successful for this purpose.

Case.—A. Z., aged twenty-two, applied to me for treatment early in May last. Patient had suffered for several weeks from severe neuralgic pain throughout the left half of the upper jaw, at time lancinating in its character, at others more dull, but never wholly absent.

The general health was decidedly affected, as evidenced by the state of the circulation, digestive and nervous systems. The teeth, on inspection, were all sound; there was no heat or swelling of the gums, no tenderness or increase of pain on pressing them.

Anodynes, both local and general, refrigerants, emollient poultices and counter-irritants were successively resorted to without benefit. After much solicitation, a tooth was extracted. The patient remained unrelieved. On the following day, no change for the better having occurred, ten drops of the Edinburgh solution of the bi-meconate of morphia were injected beneath the mucous membrane of the gum; the pain ceased instantaneously, and from that moment to the present, a period of nearly five months, there has been no return of the malady.

Should the operation prove insufficient entirely to arrest the pain, I should advise a direct attempt upon the organ causing the disturbance, by local applications to the cervix uteri. These do not seem to have been resorted to for this special purpose, but from the tincture of iodine we might derive the same benefit as in the vomiting of pregnancy; the employment of the speculum, often enough to be condemned at other times, usually becomes here doubly unjustifiable. I am not aware that any writer has hitherto proposed to prevent, by submucous injection, the extraction of teeth during pregnancy, and thereby to prevent abortion, resulting either from that operation or from the neuralgic pain; not even does the induction of mere local anæsthesia, by any of the numberless modes attempted, seem to have been thought of for this special purpose. Nor do I know that submucous injections had ever been made use of previously to the case I have related, for the cure of dental neuralgia. It was the opinion of a friend, Dr. Page, at the meeting of the society to which the subject was originally presented, that upon this point I was in error; but the gentleman has subsequently informed me that the application, in the case to which he alluded, in the practice of a distinguished dentist, was of anodynes externally, to the surface of the gum. Apparently the only instances as yet recorded of the injection of opiates into the substance of the gum, are by a dentist of Edinburgh, Mr. Smith; and the operation with him was for the purpose of producing temporary local anæsthesia during the extraction of teeth, not for the purpose of preventing their extraction by the cure of neuralgia.

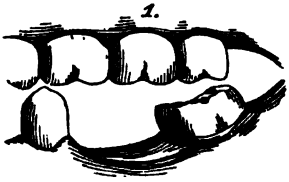
By the copying of a large portion of my former paper into a leading journal of American dentistry, an unexpected opportunity has been given of impressing upon dentists the heavy responsibilities hitherto generally unacknowledged by them, that attach to the extraction of teeth from pregnant women; and I cannot but hope that the views expressed may thus be made productive of decided and extensive good.

MASTICATORS—NARROW PLATES—CLASPS.

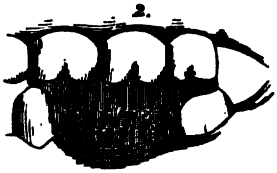
BY DR. B. F. SMITH, NEW ORLEANS.

By the term masticators, I mean blocks fitted to rest on any remaining molar teeth, and filling the space so as to form a firm, unyielding, antagonizing base. My method of making them is very simple. Take a small piece of wax and place it in position, and let the patient close the jaws; remove and immerse the impression in cold water; when sufficiently hard trim it to desired shape; then make a plaster mould and run pure tin into it or supply with vulcanized rubber; then drill a hole horizontally through the block, and insert a pivot of wood (or vulcanized rubber if the tin be used) so fitted as to impringe slightly on the sides of the two adjoining teeth. This piece should only be worn for mastication, and will answer all the purposes of *jaw teeth*, as I have tested for seven years.

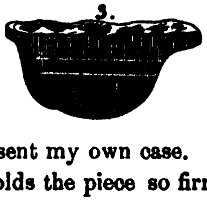
1.



2.



3.

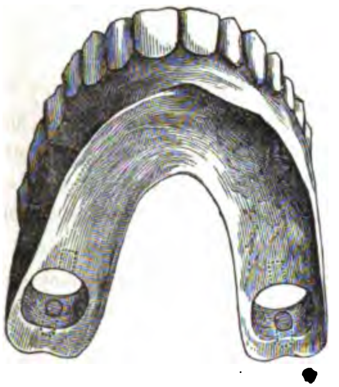


Cuts 1, 2, and 3, represent my own case. The pivot needs renewing occasionally, which holds the piece so firmly as never to slip out of place.

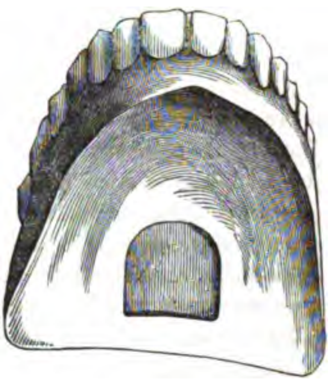
Narrow Plates.—I have recently tested the following method of using narrow plates, with very satisfactory results. (Fig. 4 represents the narrow plate.) I often make six or more small cavities of considerable depth on the outside of the alveolar ridge, in cases where I do not use clasps; these when filled with the gum form bulbs, which assist materially in holding the plate firmly in the act of mastication.

In very shallow mouths I still use wide plates, as will be seen in Fig. 5; but the objections to wide plates are: 1st. Covering the roof of the mouth affecting the sense of taste; 2d. The roof of the mouth being more firm and unyielding than the alveolar ridge, forms a fulcrum upon which the plate rocks. The principal use of the cavity is to raise the plate; in effect, it answers the purpose of narrow plates, especially when the cavity happens to extend to the soft parts of the alveolar ridge.

4



5



Clasps.—For a few years the rage has been for wide clasps, which I regard particularly injurious, for the reason that no better device could be arranged to confine the food in contact with the teeth at the gum, where chemical action soon causes the ruin of the teeth. I prefer to use the narrow clasp, embracing only the bulb of the tooth, and connected with the plate by a strong stud in such a manner that no food can have a lodgement around the neck of the tooth.

To give the requisite *adhesive* power to the clasp, I stipple the end of the clasp, then take a piece of underdone vulcanized rubber, hold it over a spirit lamp till softened, and apply it to the clasp, forming a lining that has extraordinary adhesive power. This method will entirely obviate the chemical and galvanic injury of clasps.

Vulcanized Rubber.—In using this material, which is so rapidly superseding all other bases, clasps can be almost entirely dispensed with by simply letting the rubber come in close contact with a few points of the teeth. Care must be taken not to form convenient cavities for the lodgement of food.

If these hints prove of service to the profession I shall be content, and will hereafter furnish your valuable Journal with other items.

DENTAL ASSOCIATIONS,

BY DR. B. W. FRANKLIN, N. Y.

It is a subject of congratulation, that the profession at last have come to the determination to organize themselves into an Association in the State of New York. The necessity of organization has long been experienced, and the only question that seemed of difficult solution was, how or upon what plan the profession could organize, so as to secure to its members a reasonable return for the time, money, &c., necessary to carry into practical operation the objects sought to be obtained by association.

An association conducted in a spirit of liberality, toleration and discretion, will not only materially benefit the profession itself, but will indirectly aid in educating the public in regard to what can constitute proper qualifications on the part of the dentist. The more thoroughly the public are made acquainted with the difficult and often intricate operations the dentist is called upon to perform, the more readily will they appreciate the skill exercised in the accomplishment of those operations. One great duty of a State Association should be to educate the public by well-written articles in our newspapers and public journals. There is almost a total lack of discrimination on the part of the public generally, to judge between the competent, experienced and qualified practitioner, and those entirely disqualified to perform the most simple operation; and hence it is that persons failing in every other kinds of business *succeed so well in dentistry*, while one educated for the profession, and in every way qualified to practice, is often compelled to abandon it for want of patronage and support.

There is no one calling or profession requiring a higher order of attainment than is necessary for a successful practitioner of dentistry ; he must be acquainted with the anatomy of the parts to be operated upon; he must understand the physiological relations they sustain to each other and the system; he must know what chemical agents exert deleterious influences, and judge pathologically what remedies are to be employed to restore order; he must possess one of the first order of mechanical minds, with quick perceptions and ready execution; adapting mechanical contrivances to living sensitive parts requiring a perfection of manipulation seldom if ever necessary in any other department of mechanics; he must be an artist of cultivation and experience, to discriminate colors and proportions, blending all in one harmonious whole, so that his efforts shall elude the scrutiny of close observation, and vie with nature herself.

It is wonderful, when we take into consideration the requirements of a dentist, that we, as a profession, have made so much progress as we evidently have in the last twenty years, with our Dental colleges, associations and conventions, and numerous journals and periodicals; and the time is not far distant when with these instrumentalities the profession will be purged of all those who have so greatly misjudged their fitness for the calling they have adopted. Associations must materially aid in bringing around this desirable end, desirable to all concerned. A dentist who "takes up the business" and intrenches himself in his office behind an operating chair, may never learn how little he knows of the business he is following; but if he can be induced to associate in conventions or societies, he may learn that one of two things is inevitable,—either he must qualify himself thoroughly for the practice of the profession, or the public will soon be qualified to discriminate between him and those who have the necessary qualifications; and he will be compelled to engage in other pursuits. There will be obstacles thrown in the way of this effort at permanent association; it always has been so with other efforts of the kind. The opposition grows out of a conscious want of fitness to become members with some, and a lack in others of a spirit of enterprise; in either case opposition is the only means at command to prevent the public from contrasting qualifications and judging real merit. Others, again, who have earned for themselves an honorable distinction in the profession, by a long and successful practice, do not seem to appreciate the fact, that, by their refusal to identify themselves with these associations, they give their influence not only against the association and those belonging to it, but with those who are disqualified to become members for want of the knowledge and skill requisite for membership; " though wide asunder they work to one common end." An association having for its object the elevation of the profession must be in spirit conciliatory, its administration impartial, its honors judiciously distributed, its usefulness untrammelled by a spirit of exclusiveness on the one hand, or a disregard of character and professional qualifications on the other. In the State of New York, numbering several hundred dentists, there ought to be public spirit enough in the profession to sustain an association that shall reflect credit on its members at home, and command respect for them abroad. We shall see.

ART IN DENTISTRY.

BY J. C. B., D. D. S.

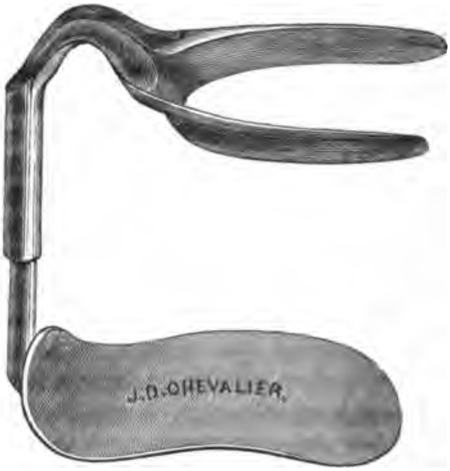
THE *Dental profession* opens a wide field for artistic taste, and when properly displayed gives pleasure to the patient and gratification to the operator. The human face,—what a great kaleidoscope of the changing moods of man! at one moment glowing all over with those happy smiles which lighten up the rough path of life and send their cheerful rays into the dark corners of the sorrowing heart; the next changed like the wind-cloud, darkening the face of the sun, hiding its glorious light and heat from the face of nature, only to leave a remembrance in the mind, of the lingering beauties of the past. These love-lit beacons, mothers' eyes, have reflected the feelings of her maternal heart, and, when long years have passed away, the sweet smile which played about the corners of her mouth are daguerreotyped with faithful lines upon the memory of her child. The rude savage and the polished man bow with reverence and delight over the works of ancient and modern art. The painter dips his pencil, and out of the canvas, beauty seems to start, a living and a moving reality; and as each new line finds its place of beauty, so each moment swell up from his heart a gladsome feeling of heaven-born emotion. Wherever we may turn, artistic taste spreads before us gran dviews of cultivated loveliness,—all springing from that great Creator, who makes the blossom and gives the shower, who shapes the huge rock and the frowning precipice, and hangs upon their brows the clinging woodbine and the honey-suckle, fit emblems of his magic touch, to teach the world that that power so mighty in its grand results, yet so delicate in delineation, is the Master-power of all art, both human and divine. It is the cultivation of the mind that teaches the hand the movements to produce effects, which give character to the results. It is the cultivation of the voice that enables the vocalist to warble forth rich tones of melody, that fall upon the ear so sweetly. It is the cultivation of the earth that spreads before us leaves of green and flowers of purple; and it is the general cultivation of taste that adorns our cities, raising palaces of strength and grandeur, vying with the old world for the laurel wherewith to crown the victor. Rude and ugly distortion and disproportion are words which are being swept from our vocabulary by hands who hold the wand of intellectual power; and out from a chaos of wild disorder are springing up fruits of man's ennobling nature,—and thus we move along towards the goal of beauty. The mighty engine, and the noble steam-ship as it plies its way over the sea, carry news to distant lands of new discoveries which benefit the world; and each changing season brings new harvests, garnered up for the vast store-house of the human mind.

Our profession has made rapid strides towards perfection;—each year has developed the results of careful investigation, and a dignified position has been awarded us for our industry and talent. Look back upon the past, and call to mind the rude contrivances inserted into the jaws of mankind to enable him to eat his daily bread,—and as each muscle moved, the clicking sound of an ill-regulated spring told of an institution in its infancy; and when children, suffering pains excruciating, how we had to sit upon the floor while the surgeon of teeth wrapt his colored handkerchief around those fearful turn-keys, and placed our little heads between his knees to tear out our offending molars! Ah, happy is the thought that those days have gone by, when sea-horse dentures filled the mouth, and amalgum black stopped our teeth to disfigure our beauty. Now the easy-chair, the delicate operator, the polished instrument and the cozy office, tell us that art has almost robbed us of our *pains* in taking care of our teeth. To us is given the power of restoring, as it were, youth to the aged, smiles to the smileless, beauty to the ugliest, and teeth to the toothless;—and with all this work before us let us, seek out, cultivate and employ our best talents to render our task an accomplished artistic study; let our work be performed with an eye to stability; let every operation tell of a desire to improve, and we shall reap those rewards consequent upon faithful duty to our parents, and so fulfil our destiny in our profession as will give us the dignifying appellation of intelligent, educated men.

◆

HAWES' DUCT COMPRESSOR.

The neat little appliance represented in our cut, is invented by Dr. Geo. E. Hawes, of this city, and manufactured in silver by Chevalier. It almost explains itself.



It consists of two parts: the upper comprising a forked plane which fits beneath the tongue, and an upright cylinder attached to it. The lower part is a plane with a rod extending from end at right angles with it. The rod contains a small wire of rubber, and as it is split, the rubber expands the rod, thus fitting tightly in the cylinder; this arrangement will adapt the instrument to any length of chin. The flat surface being placed under the chin, the forked plane, being attached to the lower portion by its rod fitted into the cylinder, is placed underneath the tongue and slipped back to its roots, where it presses upon the salivary ducts and thus confines the flow of saliva. Every operator will see at a glance the proper mode of using the instrument, and its great usefulness to the practising dentist. The annoyance caused by the great flow of saliva, especially in filling the lower teeth, has been felt by every one, and Dr. Hawes, in this invention, has remedied a very troublesome difficulty.

WHY I AM DISGUSTED WITH THE DENTAL PROFESSION.

BY DR. JOE STACKPOLE.

It would be difficult for me to give you an idea of the disgust that I entertain for the profession (so called) that I have been forced into, for the immediate relief of those near and dear to me. To become a dentist requires far more indifference to public opinion than is inherent in my nature. That it is not a useful, high calling, I cannot say; on the contrary, I will say that no man in the community should be more respected than he who renders the greatest service to the greatest number, in the amelioration of human suffering; that man is the high-minded, honest, competent dentist; for does he not, when those organs that manufacture nourishment for the bloom of childhood as well as the infirmities of age, begin to fail him, come to the rescue, and with his strong hand stay the monster, disease, or restore the idol that relentless disease has wrested from him with pain and violence? Does he not come to the rescue, and save or substitute that brightest jewel that man or woman can possess? Have you, young man or young woman, ever reflected for a moment upon the sunken cheek, the receding lip, the changed expression, the altered voice, caused by the loss of those invaluable gems? Then you have yet to learn the value of God's works over man's. And could you return to their original possession, what value would you place on this gift of God.

But I was about to tell you why the business was odious to me. Firstly, It was and is a barber's business in Europe and some parts of this country. I mention this not to the disparagement of the profession, but merely to show that it lacks point of character—that it is only an adjunct to some other trade or calling, and that the fingers rather than the brains have been the elaborators of the work—that it is a work almost without parentage or antecedent, depending mainly on the ingenuity of man for its thesis, its benefit; and its mundane philosophy, as frequently inculcated, is that of securing the greatest amount of money for the smallest amount of labor, and of frequently leaving the credulous victim in an infinitely worse condition than before the *bleeding process.* Secondly, the business is represented by men of every conceivable grade of intellect and morals, and also by men whose aspirations have not been distinguished for either.

This may also be said of men of other trades and professions, but this difference still exists. The ignorant and unskilful mechanic may putty and paint over his ignorance and stupidity, without a fatal loss to property, or an irremediable injury or deformity to a fellow-being. A lawyer may lose his case, sacrificing the interest of his client, but creating no obstacle to the health or happiness of the human family. His field is the civil or the criminal interest of his patrons.

The clergyman, with his ample reference before him; with his mind well stored with sacred teachings; with his heart and purse in his hand, steps forth from his cloister to resist, with all the strength that God has given him, the growing infidelity of this great world. His field is bounded by no ocean. His voice, for the redemption of man, only ceases in death. His aim is the moral and religious culture of the race.

But the office of the dentist is to preserve intact the beauty of the machinery that has been given us in imitation of His own perfection, in order that it may work harmoniously to the end. To disturb any portion of this machinery, or divert it from its legitimate purpose, will impair its physical function, thereby endangering health or life; therefore the dentist who conscientiously performs his duty in his specialty, stands first on the list of benefactors to the human family. He preserves or substitutes that which gives vigor and beauty to physical man. His success may not always be commensurate with his desires. He meets with mental as well as physical obstacles. The mind not unfrequently creates to itself a fancy altogether beyond the reach of human skill. When our common Creator neglected to perfect his work according to their fancy, they expect the deficit to be made up by the dentist, and woe be to the man who fails to fill the bill in this particular, "for his days are numbered," and his failure to produce this, to him, undefinable something, will be proclaimed from the "house-top."

A case in question now occurs to me. One of the "high-bloods" in dimity engaged my services to substitute a complete upper set of teeth, and the cuspids and molar teeth on the lower jaw, she having her eight under front teeth. I followed out her suggestion, by substituting pearly white teeth, which were in great contrast with her natural under teeth. Having completed the work according to her own peculiar notion, I made the application in the presence of her wealthy and amiable sister. She remarked, on viewing herself before the mirror, "Beautiful expression, sister!" Her amiable sister agreed with her. She then turned to me, saying many pretty things highly complimentary of my skill, and might, under ordinary circumstances, have been flattering to my vanity. After passing from one mirror to another several times, with increasing haste, she turned towards me, and with great vehemence said, "You have changed the entire expression of my under lip." Not having much veneration for inflated dimity, and observing her increasing excitement, as she hurried from one mirror to another, I concluded to enjoy the "tempest in a teapot" in silence. After reäction had taken place, with the usual indications of a calm, I quietly remarked that God Almighty had made those teeth, and also gave to them the "horrid expression," and that I did not pretend to rival Him in perfect works; and that if He had not given her an expression that she approved, I could not change it, and would not if I could. I presume she discovered some *point* in my manner, if not in the *matter*, for her great "personal presence," or, in other words, her disgusting impertinence, gave way, her compressed mouth seemed to relax, her arched neck seemed to lose a kink, and she was herself again. This woman was, many years since, legally, I presume, made part and parcel of the English aristocracy; and from her manner, she evidently intended to show the great superiority of borrowed English blood over *common* American revolutionary blood, in which she most signally failed.

This is only one of the numerous feeling "affinities" that every dentist meets in the course of his practice. They vary, however, in grade as well as in dimity, as interest or vanity dictates; for all, or nearly all, patronize a dentist as they would patronize a pawnbroker. They desire a private entrance-door, and conceal their pawn-ticket. Hence the most perfect work results in the least benefit. Another case in illustration.

Mrs. ———, the wife of a clergyman, consulted me on the subject of a set of artificial teeth. She stated that she was the wife of a "poor parson, without a parish," and claimed a large abatement from my usual prices; but added, "if I pleased her, she could effectually blow my trumpet, which would, doubtless, bring a good return for my indulgence, as she was on her way to pay a visit to two sisters in neighboring counties, who needed teeth. I acceded to her wishes, inserting the teeth for a merely nominal price.

She was absent about four weeks, when on her return she visited my office. I asked her if she had blown my trumpet, when she remarked with much nonchalance, that "she had not said one word." I said to her that she had not fulfilled the contract. "Well," she added, "I visited my sister in ——, and almost the first word that she said was, 'Why, Mary, how remarkably you have preserved your teeth!' Of course I did not say one word. I then visited my other sister in ——, and she remarked the same in substance. It certainly was not my duty to disabuse their minds in a matter of so great delicacy." And here is the gist of the whole matter. She would have deceived the angel Gabriel, if it would have concealed a defect in her ivories or her jewels, or have been flattering to her vanity.

But let us look upon the opposite posture. Suppose the teeth had been less perfectly adapted, and had *dropped* from the arch in the presence of those same individuals, a few times during her sojourn, (and this is no very unusual occurrence, in the absence of experience,) the secret would have spoken with a slight abrasion of vanity, not of character, and the structure would have been pronounced the *ne plus ultra* of dental skill.

But let us pass to a case still more aggravating. Mrs. —— was the wife of a liquor dealer, which fact had I known, would have saved me the loss and mortification that I am about to record, for I should have anticipated a portion, at least, of the demon that subsequent experience luminously developed. I shall not mention her name for obvious reasons; but I may mention, with some degree of pride and satisfaction, that she hailed from British territory. "She came," as she said, "to ask a favor. She had a set of teeth made that she desired me to pass my judgment upon," at the same time handing me the teeth.

I told her that as a piece of mechanism it certainly was very good. "But," said she, "will you try them in?" I told her that I must be excused from any further expression in regard to them, for, though I was ignorant of the author of the work, I was bound to him by professional courtesy, and that I must accordingly decline. She stated that "my friend Dr. —— had recommended her to me as the man who would tell the truth." (Ahem! an *infernal* lie.) I told her that as my friend had requested the favor, I would subject them to an examination, on one condition, viz., that I should be permitted to call in, separately, the aid of two of my professional brethren; that their opinions should be delivered separately, and that she should not disclose the name of the author of the work. To this she agreed. I proceeded to make the application, taking notes as I proceeded, the result of which was, that as a mechanical piece, it was almost without a fault; that as a dental piece, it was a failure, being devoid of adaptation, and consequently adhesion, which of itself destroyed the utility of the piece. The artistic qualification was even more defective than the dental, owing to the teeth being arranged outside of the alveolar ridge, and the cuspids prominent, giving it more the shape of a horse-shoe than of the mouth. The shading of the teeth was equally defective. On summing up the testimony, I found it utterly worthless as a dental piece.

I then called in Dr. ——, carefully concealing the opinion that I had formed. After a careful examination he decided the case to be useless, on the same grounds that I had based my opinion upon. Dr. —— gave the same opinion, based on the aforenamed reasons. But notwithstanding my being doubly fortified, my gratuitous trouble was not at an end. On the following day, being in my laboratory, I heard the mingling of voices in energetic conversation in my office. I at once proceeded to my office to learn the cause, when I found two ladies seated on the sofa, with a man before them whom I judged to be a Jew. As I entered the room, he was addressing the ladies after this manner: "Madame, it is buful—you wear it one, two, tree, four weeks, and you be perfetly satistified."

The woman then introduced me, when he said, "Did you say, sar, dish teeth was not cood? den I tell you, sar, you no chentleman." I grabbed the man with the intention of teaching him something he never knew, viz., good manners, when, on account of the fright of the women, and returning self-respect, I dropped him, and sent for a police officer; but he made good his exit before his arrival. The women left for home, but returned on the following morning, and after hearing my terms, engaged me to make the teeth. I accordingly made the teeth, which she was to pay for in three weeks if I accomplished the work according to agreement, which was that they should adhere firmly, and be otherwise a finished job. During the subsequent three weeks she expressed perfect satisfaction to myself, to my assistant, and also to five or six other parties. Three weeks and one day passed, when I was surprised on hearing from her that the teeth "were entirely useless, for the reason that they would not stay up." I took hold and attempted to remove them, but failed. I then called my assistant, and he likewise failed to remove them. I then removed the teeth, and told her that her bill was settled.

About three months elapsed before I heard from this creature in petticoats. I was then informed that she had had two additional sets of teeth made, by two of our most successful dentists, and that she would not have either set, and that my teeth were the best that she ever had, according to her own acknowledgment. Thus much for a *tooth-shopper*.

All dentists are liable to similar impositions from that class of impostors, whose lives are witnesses to the supreme selfishness of the age, if not living testimony of *the natural depravity of man*. This growing evil calls loudly for reform among the profession.

One-half of the charge for services, in the artificial department, should be demanded in advance, and three or more gentlemen, of known ability and probity in the profession, should be appointed to decide in cases of difficulty or dissatisfaction upon the merits of the work, and their decision to be final, either in approving or condemning.

By this arrangement the dentist and the profession are vindicated, while the *cunales* are left to seek some other calling.

I remarked at the commencement of this communication that it required far more indifference to public opinion than I possessed to become a dentist. I am thankful that but few outside of the profession can appreciate the force of this remark. The great difficulty that we constantly experience is in overcoming obstacles without data or antecedent, without chart or compass, without reference or guide, shut up in an office eight by ten, more or less, with air not the most wholesome, or the best calculated to promote health, with the sun obscure, and the muscles softened and flabby.

EXPANSION OF PLASTER OF PARIS.

BY DR. B. W. FRANKLIN, N. Y.

Many years since, I became satisfied that much of the plaster employed for dental purposes expanded to such an extent as to prevent in many cases that adaptation which is always desirable, and with some plaster is quite impossible to reach. This occasional failure in the fitting of plates has been a matter of much speculation in the minds of our best dentists in all parts of the country, and various systems have been adopted for getting up plates, so, as if possible, to obviate the difficulties experienced. It was, and is now, generally believed that all metals contract sufficiently to account for this misfitting of plates; would a uniform expansion of plaster or contraction of metal explain the difficulty? We sometimes get a perfect and satisfactory result, and at others a total failure, when every circumstance seems equally favorable for a perfect result. Some three years ago I instituted experiments with a view to demonstrate the contraction of zinc and other metals, and found the contraction uniform when the heat and quality of metal was the same. These experiments did not account for the diverse results; I came to the conclusion that to solve the difficulty we should have to turn our attention to the plaster in common use.

Something over a year ago we experimented with plaster and became satisfied that the expansion was very considerable. One of these experiments was commented upon by the Editor of the American Dental Review, in February last; since then further experiments show, conclusively, that different qualities of plaster vary in their power to expand.

I had intended in this No. of the New York Dental Journal to present the result of my experiments, but other engagements have prevented the completion of them, and I should not have said anything on this subject at this time; but for the article in the last Dental Cosmos on the expansion of plaster, by T. S. Buckingham, D.D.S. I am glad that this subject has at length engaged the attention of such minds as Dr. B. His experiments clearly demonstrate what has been denied by many, and what many others have never thought of at all; and it is but reasonable to suppose that the profession will be greatly benefited by his and other experiments in this direction. The conclusion, however, that Dr. B. seems to have arrived at, or the inference drawn by the reader, is, that "Surely this amount of expansion could not have much effect on the fitting of the plate."

Will any one explain how it is that upper models from perfect plaster impressions, moulded with Hawes' sectional flask, or otherwise cast in zinc or other metal, in the hands of competent and experienced manipulators, will sometimes fit perfectly and at other times prove a total failure? If all plaster expanded uniformly alike, and the metal employed contracted with equal uniformity, (which I believe is true in regard to construction of metals,) the results would be more uniform.

The solution of this difficulty, I think, is found in the fact that all plaster does not expand alike. I have tested some very fine ground plaster with very delicate tests, and the amount of expansion was hardly perceptible, while with other and coarser kinds I have broken bottles, tumblers, egg-shells, &c., showing great expansion, so much as to destroy the adaptation of perfect fitting platinum, placed simply by running plaster into the plate for an articulating model. This difficulty has been experienced by many, though the cause may not have been understood. My theory is this: the finer the plaster is ground the less it will expand when mixed with water; very fine plaster will not set as quick as the coarser kinds, for the reason that each granule absorbs all the water it can take up before solidification takes place, while the coarse granules absorb the water in contact with their surface, and solidification takes place almost immediately, and as the moisture is absorbed by the internal portion of the granule its expansion continues until its substance is equally saturated. I have known coarse plaster to expand during from three to five hours. There is but little pure gypsum, and in a pure state it never becomes so hard as that containing the calcareous matter. Pure gypsum consists of lime 28, sulphuric acid 40, water 18. French gypsum contains fossils, bones of extinct animals, birds and shells, and 20 per cent. carbonate of lime. What effect these substances in combination may have in regard to its expansion we cannot say, never having experimented with it.

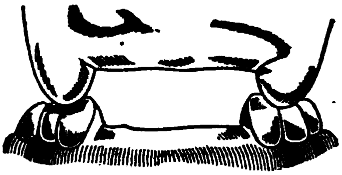
I believe that any of the common plaster of commerce, very finely ground, when mixed with water, should be thoroughly stirred or beaten, till it assumes a pasty and partially adhesive consistency. When thus treated it requires more time to set, but will be found more reliable for dental purposes.

[We have been familiar for some time with the experiments of Doctor Franklin with plaster, and also testing the strength of various substances used, and shall give an illustrated article in our next number from his pen on this subject.—Eds.]

CONTRACTION IN CONSEQUENCE OF A SCROFULOUS AFFECTION.

BY DR. S. F. TREMAIN, ROME, N. Y.

The following is the case of a lady whose jaws had become permanently set, in consequence of a scrofulous affection of long standing. She could only swallow fluids between the teeth to sustain life. I thought it advisable, for two or three reasons, to extract both the superior and inferior incisors. One was, that the tartar accumulated so fast upon the lingual surface of the teeth, and scaled off in such large flakes, that it was a source of vast annoyance, and it was almost impossible to get rid of it,—her only recourse being to press it with her tongue against the incisors, and by the aid of a pin and needle between the teeth, though the teeth were very close together, to gradually wear it to pieces. Another reason was, from the tightness with which the jaws were set, the incisors were very much protruded, causing quite a deformity, it being very difficult for the lips to cover them. Another reason, she could partake of no solid food, being confined entirely to what she could by suction draw through the interstices between the teeth. I extracted the teeth. An effort was then made by a surgeon to force the muscles to yield or relax, so that she could recover the motion of her jaws, but it was found to be impracti-



cable. When the alveolar was sufficiently absorbed, I took an impression in wax, by the aid of a common pearl cheek-holder, and inserted teeth to replace the four upper incisors; only, however, for appearance sake.

Messrs. Editors:—A case to which I wish to call attention, came under my notice about a year ago. Miss S——, twenty years of age, light hair and complexion, with the sanguineous temperament predominating, had occasion to give me a call. Her teeth were well formed, and the enamel of a faint yellow cast, presenting a glassy and highly polished appearance; altogether the dentine was rather soft than otherwise. The cuspidati, first bicuspid and first molar of the left side, and the lateral incisor, and first and second molars of the right side, were affected in a rather singular manner on the labial surface near the gum, presenting the appearance of having been scraped out saucer-shape, with a half-round, oval-pointed instrument, leaving the dentine and enamel perfectly smooth and white. I saw her again a few days since, and the grooves had not changed in the least, though they were somewhat sensitive. The patient stated that a kind of ulcer made its appearance over each of the affected teeth previous to the appearance of this disease, from which I infer that it was caused by a change in the fluids of the mouth, which, becoming vitiated by the ulcers, formed an acid which acted upon the enamel and bone of the teeth.—I saw another case a few weeks ago, where several teeth of a fine quality in all other respects presented precisely the same appearance. Are not these genuine cases of "denuding of the teeth," as described in Harris' "Principles and Practice of Dental Surgery?"

[We publish the following according to request, although we assure our Canada friend that the idea is by no means purely original. Eds.]

FILLING TEETH.

BY X. Y. Z., MONTREAL, C. E.

One of the many evils that we have to contend with in filling teeth is the so shaping of the cavity that it will hold the filling *firmly*. My idea will, I am assured, banish all further fears on that point. I excavate the cavity as is customary, and when all extraneous and decayed matter is removed, so as to expose the healthy bone, I then make incisions or grooves across and around the cavity and make it *file-like*, and after that process is accomplished I proceed to fill, in the usual manner, taking great care to press the filling well around the sides of the cavity, so as to fill up the grooves made. By the above mode, the cavity does not require so much cutting to make it the shape to hold the filling. I am confident that this mode of filling teeth will be found superior to most methods now practiced to cause the filling to remain fast in the cavity. I would like to have your opinion and that of the profession in general on this purely original idea. Hoping to hear from you in your next issue of the Journal, I remain yours, etc.

[We print the following in accordance with our always expressed determination to publish everything which shall be offered to us, containing novelty or peculiarity of any kind. We wish to give publicity to every man's opinions, discoveries, or inventions, considering this true justice.—EDS.]

TO THE EDITORS OF THE NEW YORK DENTAL JOURNAL:—

SIRS: I beg to call your attention to the AMBER BASES FOR ARTIFICIAL TEETH, which are secured to me by three distinct Letters Patent, that is to say, by Letters Patent No. 19,916, dated April 13, 1858, by Letters Patent No. 24,544, dated June 28, 1859, and by Letters Patent No. 24,545, dated June 28, 1859.

The great usefulness of this invention for dental purposes, and its superiority over the existing methods of forming a base for artificial teeth, consist in the following points:—

1st. The Amber composition is tasteless; it causes no excitement of the glands; it creates an agreeable feeling in the mouth, and emits no odor.

2d. The contact between the Amber Composition and the mouth is not injurious to the health, and acts as a preventive against some diseases, such as inflammation of the throat, etc.

3d. Being a bad conductor of heat, it does not cause that certain feeling of chill in the mouth, which metal bases create.

4th. It is not liable to oxydization, corrosion or solution by the action of stomach acid or of saliva.

5th. It is capable of bearing an extreme degree of heat, without suffering any injury therefrom.

6th. It can be easily cast into any shape suitable to the mouth; it is not liable to bend; it always retains its form; and for these reasons it affords greater security for its retention in the mouth, and increased facilities in chewing.

7th. Being enabled to firmly unite the artificial teeth with this composition without the use of any other cement or solder, by uniting them before the composition becomes hardened, I obtain a compact body, and avoid porous between the teeth and their base.

8th. Being enabled to represent an exact imitation of flesh color in my amber compositions, I can produce compact, continuous, and homogeneous gums *without the aid of any gum teeth whatever.*

9th. There being no sulphur used in my composition, it is superior to vulcanized Rubber or Gutta Percha, as it emits no disagreeable odor.

10th. The profession is well aware of the fact, that vulcanized Rubber or gutta percha bases represent so bad an imitation of flesh color that it is always necessary to represent the gum by a coating or lining of porcelain; and in this particular also my Amber Bases are superior.

These and other advantages will secure to this Amber Composition a preference over all other metallic or non-metallic bases, and I am confident that all professional dentists will find it advantageous for themselves and their Patients to employ amber, instead of metals, India Rubber or Gutta Percha.

To give a correct idea of the process and of the composition of matter constituting the new invention, I refer to the specifications annexed to the three patents above mentioned, and I will confine myself here to a statement of some of the principal points of the same.

The first Patent, No. 19,916, refers to the manner of compounding and shaping the amber composition, and a résumé of the invention is thus expressed: "What I claim as new and desire to secure by Letters Patent is, making the base for artificial teeth of a composition of matter in which AMBER forms the principal ingredient, in the manner substantially as described."

The second Patent, No. 24,544, says: "I add to one pound of amber, treated as described in my former Patent, about one-half pound of pulverized *Sulphate of Alumina*, about one-half pound of *purified Linseed oil*, about three-fourths of a pound of Gutta Percha or Caoutchouc, and about one fourth of a pound of a mixture of metallic colors most nearly resembling the color of the natural healthy gum."

"The compound thus formed may consist of the following combinations: Sulphate of Alumina in combination with Amber, Caoutchouc or Gutta Percha, and linseed oil, with or without coloring matter; or Sulphate of Alumina in combination with amber and linseed oil, with or without coloring matter; or Sulphate of Alumina in combination with Caoutchouc or Gutta Percha, with or without coloring matter."

* * * * * * *

"What I claim herein as my invention and desire to secure by Letters Patent is, the composition of matter consisting of Sulphate of Alumina and other ingredients, substantially as described for the purpose as set forth."

My third Patent, No. 24,545, for an improvement in the coloring process, contains the following passages:

"My attention was first drawn to the necessity of providing some means for giving color to compounds intended to represent artificial gums by the bad representation of flesh color in the existing artificial gums. The compound termed "Coralite" consists of Gutta Percha, Sulphur and some other coloring matter; another compound, termed "Vulcanite," consists of India Rubber, Sulphur and coloring matter, but the dental plates thereby produced are so imperfect in regard to their color that it is generally necessary to coat them with porcelain in the same manner as metallic gums are coated, by which their weight is greatly increased and their shape impaired."

* * * * * * *

"What I claim as my invention and desire to secure by Letters Patent is, developing the color of a cured or hardened composition by the agency of solar light when the coloring matter is incorporated into the said composition while in its plastic or uncured state, substantially as described."

It will be seen from these extracts, that my Amber Composition is entirely independent of and different from the India Rubber or Gutta Percha compounds, which have hitherto furnished so much food for

Controversy, and those of my colleagues who have tried the amber composition for dental purposes are unanimous in giving it the preference over all others applied to the same purpose. Indeed, any dentist comparing the amber sets with those of India Rubber or Gutta Percha, will be enabled to satisfy himself about their respective merits by mere inspection.

Respectfully yours, etc.,
GEORGE DIEFFENBACH,
Surgeon Dentist, 389 Canal Street, New York.
New York, August, 1859.

SALIVARY CALCULUS OR TARTAR.

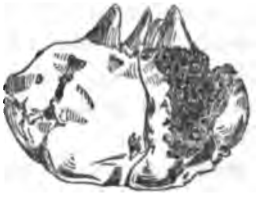
BY DR. A. B. COWEN, PALMER, MASS.

Dr. Perine—*Dear Sir:* I send you a case of salivary calculus or tartar, that I extracted four months ago. If pleasing to you, give it to the profession through the *New York Dental Journal.*

The patient was an old gentleman seventy-five years of age, evidently a man who thinks more of his farm than of his teeth. Although of cleanly habits generally, his mouth must speak for itself. The case is about one-half as large now as when I extracted it.

The teeth were covered with a soft substance, that I removed. Fifteen years ago there was then so large a collection as to be a trouble to him. He has since been sick and confined to his bed, and in one position quite a length of time; and no doubt it enlarged very much at that time.

As will be seen by the accompanying cut, the tartar encases the second and third upper left molars. I extracted them with a small



excavator and my finger. I think that Nature smiled; I know that the patient did, after getting rid of this offender. The rest of the teeth are quite free. He did not like to part with it, *because it kept* his face out; but after losing it, as his face sank in, his self-respect *swelled* out, so on the whole, I do not think that injured his looks much.

[The above specimens of tartarous deposit we have at our office.—Eds.]

REPORT OF THE ANNUAL MEETING

OF

THE AMERICAN DENTAL CONVENTION,

Held at Niagara Falls, Aug. 2d, 1859.

First day.

Pursuant to adjournment the Convention met at Grant Hall at 11 o'clock on the appointed day. About seventy-five members were present at the opening, but the number increased to about one hundred and fifty before the final adjournment. The meeting was called to order by the President, Dr. Isaiah Forbes, who proceeded to welcome the members in a few remarks, suggesting the proper mode of conducting the meeting.

The usual order of business was recommended for the present Convention. Secretary read the minutes of the last meeting, which were adopted. The Treasurer read his report; balance in hand $262.96; collected at Cincinnati $96; total, $358.96. Expenses $370.99; Treasurer's report referred to Executive Committee. The Treasurer then called for the dues of the members present, $2 each; the Convention took a recess of ten minutes for the purpose of enabling the Treasurer to obtain the names and dues; after which it was again called to order, and reports of the Committees declared in order. The Committee on a memorial to Congress asked further time, which was granted. The following list of members present was laid upon the President's table :

A. Blake, Sardinia N. Y.
J. G. Ambler, New York.
Alfred Miner, Niagara.
A. C. Crysler, Clifton, C. W.
Philip Harris, Skaneateles, N. Y.
D. B. Ingalls, Clifton, Mass.
D. Dougherty, Bardstown, Ky.
P. B. Bristol, Dansville N. Y.
H. McCullum, Augusta, Ky.
B. M. Gildea, Harrisburg, Pa.
T. D. Evans, New York Mills, N. Y.
W. G. A. Bonville, Dover, Del.
M. M. Oldham, Springfield, O.
L. W. Rogers, Utica, N. Y.
W. Calvert, Phila.
S. D. Sherman, New York.
W. M. Wright, Pittsburgh, Pa.
Robert Vandervoort.
J. S. Lavender, Lafayette, Ala.
J. G. Barbor, Le Roy, N. Y.
H. Hooper, Binghampton, N. Y.
S. D. Walter, Lockport, N. Y.
C. G. Sumner, Norwich, N. Y.
W. K. Mayo, Boston, Mass.
S. S. White, Phila.
A. E. Lyman, Newton Falls, O.
W. W. White, Chatham, C. W.
J. Waramore, Rochester, N. Y.
A. H. Brockway, Chittenango, N. Y.
John Allen, New York.
H. Hodge, Green, N. Y.
E. A. L. Roberts, New York.
R. McElroy, New York.
Frank Fuller, Portsmouth, N. H.
R. McDowell, Wooster, O.
Horace Parker, Edgefield.
M. Levett, New York.
James Pearson, New York.
S. F. Tremain, Rome, N. Y.
W. A. Sanborn, Haverhill, Mass.
John Lewis, Buffalo, N. Y.
E. M. Skinner, Syracuse, N. Y.
A. Westcott, Syracuse, N. Y.
W. W. Allport, Chicago, Ill.
C. N. Harvey, Buffalo, N. Y.
W. B. Roberts, New York.
Isaiah Forbes, St. Louis, Mo.
J. Taft, Cin., Ohio.
A. B. Robbins, Meadville, Pa.
W. H. Luce, Cin., Ohio.
O. L. Elliot, Cin., Ohio.
S. M. Robinson, Watertown, N. Y.
H. A. Coe, Theresa, N. Y.
Geo. H. Perine, New York.
Frank H. Norton, New York.
T. H. Burras, New York.
J. Mason, Saco, Me.
Geo. Clary, New York.
P. P. Lewis, Tallahassee, Fla.
Abel Ball, Boston, Mass.
S. B. Straw, Bangor, Me.
W. H. Atkinson, Cleveland, O.
C. B. Butler, Cleveland, O.
B. B. Alfred, La Grange, Ga.
S. S. Hamlin, Cin., O.
Leon. F. Harvey, Buffalo, N. Y.
D. Van Tuyl, Rio Janeiro, Brazil.
Jas Taylor, Cincinnati, O.
Edgar Taylor, Palmyra, Mo.
B. Strickland, Cleveland, Ohio.
J. Richardson, Cin. Ohio.
D. S. Chase, Augusta, Ga.
C. Elmondorf, Penn Yan, New York.
J. L. Susserott, Chambersburg, Pa.
F. Y. Clark, Savannah, Ga.
Geo. Lupton, Shelbyville, Ind.
Seth P. Miller, Worcester, Mass.
T. L. Buckingham, Philadelphia.
Geo. T. Barker, Philadelphia.
J. H. McQuillen, Philadelphia.
J. L. Nourse, Clovesport, Ky.
D. W. Perkins, Milwaukie, Wis.
C. P. Bailey, Cuyahoga Falls, O.
Isaac George, Renasha, Wis.

E. P. Crowell, Cleveland, Ohio.
C. S. Weeks, New York.
Jno. G. Wayt, Richmond, Va.
C. Palmer, Warren, Ohio.
Charles H. James, Cincin., O.
Geo. F. Foote, Buffalo, N. Y.
Geo. Watt, Xenia, O.
W. Potter, Norwich, Conn.
J. G. Cameron, Cin., Ohio.
Wm. Cahorn, Detroit, Mich.
C. B. Porter, Ann Arbor, Mich.
James Corman, Mecklenburg, N. Y.
A. A. Blount, Springfield, O.
G. A. Wells, Indianapolis, Ind.
G. W. Keely, Oxford, O.
D. S. Goldey, Oswego, N. Y.
J. Ramsey, Springfield, O.
B. W. Franklin, New York.
C. M. Kelsey, Mount Vernon, Ohio.
M. Tafft, West Poultney, Vt.
E. T. Wilson, Boston, Mass.
Jno. R. McCurdy, Phil.
E. V. N. Relyea, Bellville, C. W.
E. D. Fuller, Peekskill, N. Y.
R. G. Snow, Buffalo, N. Y.
J. S. Walter, St. Catherines, C. W.
B. T. Whitney, Buffalo, N. Y.
S. N. Smith, Auburn, N. Y.
R. V. Jenks, Paterson, N J.
Geo. L. Cook, Milford, Mass.
C. B. Foster, Utica, N. Y.
C. S. Chittenden, Hamilton C., W.
Mahlon Loomis, Washington, D. C.
A. M. Assay, Philadelphia.
Samuel Hassell, New York.
J. C. Gifford, Westfield, N. Y.
S. B. Palmer, Onondaga Co., N. Y.
E. C. Hill, Niagara City.
E. W. Sylvester, Lyons, N. Y.
J. C. Burroughs, Warren, O.
J. Fisk, Clinton, Mass.
L. Watson, Auburn, N. Y.
H. B. Blair, Columbus, Pa.
H. T. Tower, Lyons, N. Y.

Miscellaneous business being next in order; the President exhibited a letter from the "London College of Dentists" which was read by Dr. McCurdy.

It was moved and seconded that a committee be appointed to make a suitable reply to this communication; carried, and Dr. McCurdy appointed. On motion it was resolved that the time allowed for each member in discussion should be ten minutes. A motion made by Dr. Allport proposing to exclude the reporters attached to the various journals, and substitute for them a reporter paid by the Convention, was after some discussion withdrawn by its author; in favor of the motion, Allport, Dillingham; against it, Westcott, Taylor, Perine and others.

The election of officers for the ensuing year was now declared in order by the President, and proceeded with as follows: Dr. Fuller and McKellops were appointed tellers.

On the ballot for President, Dr. L. W. Rogers, of Utica, received 36 votes, and was declared duly elected; whole number of votes cast, 58. Vice-President, Geo. Watt, of Xenia, Ohio. Recording Secretary, Frank Fuller, of Portsmouth, N. H. Corresponding Secretary, P. P. Lewis, Tallahassee, Fla. Treasurer, D. S. Chase, Augusta, Ga.

Resolved that the Executive Committee be nominated and elected by acclamation. The following were elected :

G. F. Foote, Buffalo, New York; Joseph Richardson, Cincinnati, Ohio; T. H. Burras, New York City; J. Mason, Saco, Maine; S. M. Robertson, Watertown, New York.

Some discussion ensued with the regard to the hours of Session; it was finally decided that there should be but one session *per diem*, from 9 o'clock A. M., untill 2 ½ P. M. Adjourned until Wednesday morning at 9 o'clock.

Second Day

WEDNESDAY MORNING, AUGUST 3D.

THE Convention was called to order by the President at 9 o'clock A. M. About 150 members present. The minutes of the previous day's meeting were read by the Secretary, and approved. The report of the Executive Committee, on the Treasurer's annual report, was declared in order; the Committee retired to complete their report, and an interim of a few moments was given for the payment of dues by those members not present the day before. The Executive Committee returned, and reported the vouchers, &c., of the Treasurer to be correct; report adopted and Committee discharged. The President then rose and made his retiring address. After some preliminary remarks, he dwelt upon the duty the profession owe to their patients, especially to ladies : spoke of the necessity of early attention, even in infancy, to the teeth; of the distrust which lady patients perhaps have in their dentist, and the unreasonableness of this distrust; the President then referred to the progressiveness of the age, and the strong will of the dentist to improve; the dentist should call the patient's attention to the deciduous teeth of children, and to their permanent molars. The more we can educate our patients in knowledge of dentistry, the more it will drive empiricism from our midst, and lessen the difficulties we have to contend against; we should tell our patients that procrastination is the thief of teeth; after some further remarks, the President said, Since we last met, the father of this institution has gone to that bourne from whence no traveller returns: I refer to Dr. Elisha Townsend; he was 'every inch' the dentist. He wished all to become as good dentists as himself. His character is too well-known to need illustration. The President then related an interesting incident in Dr. T's practice. There may be those present, who believe that the spirits of men hover round the scenes they love best; if such be true, the spirit of the immortal Townsend must be now hovering over us. The President then made a graceful appeal to the departed spirit, and concluded, amidst the applause of the Convention.

Drs. Taylor and Westcott were now appointed to conduct the newly elected President to the Chair. Dr. Rogers was introduced to the Convention by Dr. Taylor, and, prefacing by announcing his inability to compete with the fervid eloquence of the retiring President, read the following remarks:

It may not become me to dispute the wisdom of the choice you have made for President, yet a single glance over this Convention assures me, that whatever considerations of ability or fitness may have determined your choice, it cannot have been made with primary regard to professional standing or attainments; and while I fear I may not equal your expectations even as a presiding officer, I am yet profoundly grateful for such an expression of your confidence and esteem.

Gentlemen, I am proud of the American Dental Convention. I have attended every session since it was organized, and have always been highly gratified with the personal appearance, general intelligence, liberal views and social habits of those who have been present. And I will venture to say that for courtesy and gentlemanly deportment in their debates, for sobriety and freedom from all excess in their seasons of festivity, their gatherings will bear a favorable comparison with general conventions of any profession, trade or calling in the country. Such has been their character in the past; what shall it be in the future?

It seems to be almost impossible to organize an association for religious or moral purposes, that will not soon be rent asunder by discussion. If we would avoid such a result, we must shun the rock on which others have split; let us continue to cherish a spirit of kindness, concession and fraternal regard. While we freely discuss all questions of general interest, let us carefully avoid whatever is merely personal and local. We must strictly adhere to the rule that as a body we will not assume to decide upon the merits of anything, invention or mode of practice, but leave every member free to pursue his own course, responsible only to his patient and the community in which he lives.

And, Gentlemen, we must be willing to sacrifice something of personal opinion for the sake of harmony, and, in all that pertains to the organization and government of this body, submit cheerfully to the will of the majority.

Union and harmony under any organization is better than dissension and division. "United we stand, but divided we fall." By strictly observing the same general policy which has guided us in the past, this Convention will become a permanent and useful institution, an honor to the profession, and a model for other associations. Thanking you once more for the honor you have done me, I assume the duties of the office, relying upon your cöoperation to enable me to discharge them satisfactory.

The first subject for discussion was now declared to be in order, viz., "*When and under what circumstances should teeth be extracted to insure correct development of the permanent teeth?*"

[In connection with this subject, Dr. Taylor, of Cincinnati, read a lengthy, elaborate and ably composed paper: as this paper has appeared in other Dental Journals, we shall omit it.—Eds.]

Dr. Ambler rose and said: He considered this subject one of great importance, and one upon which the opinions of dentists very frequently conflicted. It was a suitable subject for discussion in this convention, and although not prepared to consider it himself, would be pleased to hear from those who were.

Dr. Wescott did not understand the precise meaning of the word development in this connection, and desired an explanation; suggested as an amendment that the question be divided into development and regulating. The amendment of Dr. Westcott was put to vote and carried, it being decided that regularity should be first discussed.

Dr. Bristol, of Dansbury, N. Y., was satisfied with the remarks of Dr. Taylor, and considered that he had covered the whole ground, and grasped the whole subject; thought the convention would take the same view, and suggested that the next subject be entered upon.

Dr. Taft considered the division of the question would not simplify it.

Dr. Fuller, of Peekskill, considered the proper subject to be the procuring of regular dentures and the curing of irregularities. The medical profession look to us to eliminate this great question, and we should discuss it in its broadest field.

Dr. Westcott did not consider we were confined by our rules to the question as given by the committee. The subject of deciduous teeth is of great importance, and that department of the subject ought to be first attended to. The questions are, Is it proper ever to extract deciduous teeth before the fangs are absorbed? When should we extract? Where is the limit? He often felt obliged in his own practice to extract those teeth a length of time before the permanent teeth appeared. It is difficult to discuss such a subject without giving positive cases.

Dr. Perkins gave a case for the benefit of Dr. Westcott; and again another case with regard to which he requested Dr. W. to state his mode of practice. Dr. Westcott replied that, "begging the gentleman's pardon, he had not come to the convention as counsel." After some laughter, Dr. Perkins was requested to answer his own question, which he did, stating his practice in the case referred to. Dr. P. *was not a talking man*, but had no objection to give his opinion; thought that much care and caution was necessary in the dentist. The second teeth were often developed when the jaw was not ready to receive them; had frequent cases where he was obliged to extract, to give room for the coming dentition. When the deciduous teeth deform the mouth, they should be extracted. Nature is often deranged, and thus is unable to act properly; must we assist nature, remodel society, or relieve nature of what she cannot retain?

Dr. Whitney, of Buffalo, cited a case, and contended against the practice of extracting deciduous teeth, especially molars. Called attention to the frequent applications of parents for the extraction of decayed temporary molars; he invariably refused to remove them, unless ulceration had set in. How far can we go? Too early extraction causes contraction, and consequent irregularity. Had seen cases where they were prematurely extracted to relieve pain; desired to call forth expressions of opinion; confined his remarks to temporary molars.

Dr. Allen, of New York, explained his mode of practice, which was to advise retention of the temporary teeth as long as possible even although corroding. The jaw is constantly expanding, and except in cases of disease, would not extract without reference to age; had seen many cases of apparent contraction of the alveolar arch in consequence of premature extraction.

Dr. Perkins then presented another case, which was debated by Drs. Taylor, Allport, and Cormack, of Schuyler; the latter gentleman giving a case of permanent irregularity.

Dr. Sanborn, of Haverhill, Mass., had invariably found in his practice, that the deciduous lateral incisors do not give room enough to the permanent centrals. Perhaps the laterals may remain firm, as they often do, much longer than it would be judicious to leave them in; is frequently perplexed what to do in such cases; has extracted in some cases the deciduous lateral incisors, and has found that the centrals almost invariably come into line, and when the permanent laterals make their appearance, it is in the same way, either back or front. What is then to be done? Stated a case of a girl fourteen years of age; she has all the upper permanent teeth except the wisdom teeth; the central incisor projects in front, and the laterals nearly as much more back; the mother wished the centrals removed, but the speaker did not think such practice correct; preferred to extract the two bicuspids and spread the laterals, to bring the centrals into line.

Dr. Asay, of Philadelphia, stated that in a similar case he first considers the space necessary, if he discovers there is not sufficient room for a regular circle; if he can see the father and mother, and finds in them regular dentitions, and firm arches, he takes for granted that parents beget children like themselves; and though unlike in infancy, grow more like them as they grow older. When there was probability of contracted arch, he removed even the first molars to give space and aid nature in developing; gave a case illustrating the question; does not remove until the permanent teeth show some appearance of coming out.

Dr. Straw, when he finds early decay of the deciduous molars, does not consider them worth preserving; their early decay shows soft teeth; in all cases it is necessary to extract such teeth to give room for others.

Dr. Clay, of New York, leaves the first teeth as long as possible.

Dr. Coe, of Theresa, N. Y., wished to know if the temporary molars were more liable to ulceration than the incisors; thought the premature development of deciduous teeth might retard the progress of permanent teeth.

It was then moved and seconded that the second part of the question be taken up—carried. Question, *The development af the teeth from their rudiments.*

Dr. Atkinson, of Cleveland, O., thought the question was not correctly and judiciously considered; thought that very little was known on the subject; censured the mode of expression used by members; would rather have irregularity to contend against than not to have full development of fangs; preferred to save the temporary teeth where it was possible, and would rather err on that side.

Dr. McQuillan, of Philadelphia, should consider how the deciduous fangs were absorbed. The ancients thought they had no fangs; later writers thought an acid removed the particles; and others that they were lost by pressure. Delabarre considered that there was a body which officiated to absorb the fangs. The speaker thought that none of these satisfactorily explained the phenomenon; we must go back to nutrition and deglutition; he considered that the physiological department of the question should be attended to more particularly. Examined the scientific causes of the absorption from the fœtus; we are not certain that the permanent tooth is below, and should therefore wait until certain signs of its presence appear.

Dr. Taft thought an error had been made in discussing by illustration, rather than by theory and principle; considered that we should take principles, and not cases which are isolated and may have peculiar circumstances particularly affecting them. What influence does the undue remaining of temporary teeth have upon the growth of the permanent teeth? Where temporary teeth are not absorbed when the permanent teeth appear, the temporary teeth should be removed—this is a principle. If, however, the roots of the temporary teeth are not absorbed, they should not be removed—this is another axiom, or principle. If a temporary tooth becomes diseased, then it should be removed, whether the permanent teeth are making their appearance or not—another principle. Did not know how far the temporary teeth influenced the development of the permanent teeth; would like to hear this point discussed. When the temporary teeth are the cause of irritation, which will injure the permanent teeth, then they should be removed; if, however, they merely die, and are not the active cause of injury, they might be left in place; if they remain healthy, they should be left there, unless the coming teeth are making their appearance at an improper point.

Dr. S. P. Miller, of Worcester, said it was impossible to consider with accuracy the question before us; there were so many antagonistic cases, that no one could give certain data to go upon.

Prof. Westcott was then called upon. He arose and stated that he had not considered the full importance of the subject; gave a case of mal-growth in the canine, it being an inch and a half from its proper position; had himself a deciduous tooth, which he was nursing in hopes its successor would appear. The whole tooth is fully developed in the jaw; did not think there is much dependence between the deciduous and permanent teeth; as to the connection between the two in reference to extraction, had been as much at a loss as any one, and did not consider anybody was much acquainted with the facts of the case; reflected on various theories, considering most of them gratuitous. Aside from disease of the fangs, considered the temporary teeth to have very little effect upon the growth of the permanent set. The permanent teeth *will* form in spite of the temporary teeth.

Some conversation now took place between Drs. Westcott, McQuillan, Clay, and Roberts, upon the question of development, the difference between the definition of the words development, growth, &c. This was considered by the President as unparliamentary.

Dr. Whitney, of Buffalo, gave a case of a child, where an accident injured the alveolar process, and created the question whether it would injure the permanent teeth; afterwards it was discovered that the permanent teeth were uninjured, and afterwards developed themselves, although not well; considered it proved no effect of the temporary upon the growth of the permanent teeth; gave a case of cuspidati appearing in the position of the central incisors.

Dr. Westcott would extract deciduous teeth when the permanent teeth appear, in all cases.

The President then announced the second question as open to discussion: "*Mechanical appliances and forces to correct irregularities of the teeth.*"

It was moved and seconded, that no member should speak twice upon the same subject, until all who had not spoken should have an opportunity. Motion carried.

Dr. Westcott exhibited models in connection with this subject, prefacing with remarks on the importance of the subject, to which he had given much attention.

Dr. Roberts spoke in favor of Dr. Westcott's appliance, and especially with regard to its simplicity. He also exhibited a method of using vulcanite instead of metal; compared the vulcanite with cheoplasty.

Dr. Buckingham, of Philadelphia, considered the subject of the greatest importance ; advised the use of tin instead of cheoplasty ; gave his plan for correcting irregularities ; did not object to Dr. Westcott's process, but thought if we had several means we could make a better selection ; all other apparatus he had used would slip ; this did not ; never separated teeth to insert.

Dr. Franklin, of New York, had for a length of time got up fixtures for correcting irregularity, and for the best operations in New York they universally adopted vulcanite in preference to cheoplasty or tin ; described the method of using these appliances.

Dr. Asay thought it important to secure the apparatus so that it could be worn day and night ; thought the common dry willow was preferable to any other wood.

Dr. Westcott did not commence regulating until all the teeth were developed; gave a case which taught him you could correct irregularities at a greater age than he had formerly supposed ; thought india-rubber an improper subject to separate teeth; soft pine or basswood inserted loosely he found answered the purpose best; elasticity was an improper agent in all cases; he had therefore abandoned all springs ; had not been able to use plates satisfactorily ; found they slipped out of place ; would undertake to commence an operation whenever the second dentition was complete—(in answer to a question by Dr. Atkinson.) Some further explanations ensued as to the feasibility of attempting by artificial means to draw down or lengthen teeth after their full development. Dr. W. had used gentle force with success.

Dr. Ambler had paid much attention to this subject for fifteen years. In relation to age, stated a case: a young lady, aged twenty-seven years ; incisors projected and were growing more prominent ; attempted to bring the front teeth in ; took off a portion of the points of the teeth ; made a plate covering the arch of the mouth ; from its extreme point brought a ring and india-rubber to the front teeth, and in a few months forced them in a little distance, then brought a strip round in front, and in nine to twelve months made a perfect line ; the vitality was not impaired. In expanding, fitted the plate closely ; solders his clasp to fit very tight, and by wedges accomplishes his end.

The Convention then adjourned until Thursday morning.

Third Day.

THURSDAY MORNING, AUG. 4th.

The PRESIDENT called the Convention to order as 9½ o'clock. Minutes of the last meeting were read by the Secretary and adopted. Dr. Forbes moved that Dr. Solyman Brown be permitted to make certain remarks before the Convention concerning his "Biographies of Distinguished Dentists." The motion was carried, and 11 o'clock appointed as the time for it to be carried into effect.

It was moved and seconded that the third question before the Convention be now taken up. Motion carried.

Third subject for discussion:

"*Under what circumstances and in what manner should teeth be filed to remove superficial decay, or preparatory to filling, to secure them from future decay?*"

Dr. TAFT supposed this operation could only be performed on certain portions of the teeth, and should not be undertaken except when the whole decay could be removed. Judgment must be used as regards the quality of teeth; a firm, solid tooth may be filed, leaving a slight concavity; but it should be avoided, except where such strength exists. In treating soft teeth, we must leave no depression or irregularity. After the surface is made a perfect plane by the file, it should be dressed and burnished. Teeth having a predisposition to decay, will certainly decay under this treatment. We must consider the manner of using the file.

Dr. Taft then proceeded to give directions concerning this portion of the subject. In dressing with the file, the teeth should be well supported; used a cutting instrument instead of the file, where possible, and successfully and agreeably to the patient.

Dr. ATKINSON thought the profession should only state their mode of practice. By the use of the file, carefully and skilfully, where there remains any enamel, the tooth can be saved. Where there is solution of the dentine, he doubted the propriety of trying to save the tooth. Had seen cases where the teeth were filed to mere pegs, and were yet sound.

To a question from the President, how far the enamel preserved the tooth from decay, the speaker answered that, in his experience, a tooth filed, no matter to what extent, will resist decay perfectly.

Dr. CHASE thought the file was one of the most important instruments used by the dentist, if in skilful hands. Teeth should not be filed so as to deform; the surface of the tooth should be left rather as nature has left it. A fine bevelled file is one of the best instruments to be used in filing.

Dr. **Perine** thought the file was too much and too harshly used. We are not sufficiently careful to select proper subjects. The composition of the teeth, the temperament of the patient, should be taken into consideration. The speaker then alluded to the Indians, who file their teeth to a point.

Dr. **Fuller**, of Peekskill, referred to the Abyssinians and others, who file the teeth, which, nevertheless, do not decay. Used the oxyde of tin in polishing; they should be washed to remove acid; uses it with buckskin or flannel, and considers it the best thing for the purpose. Thought the file was used too little, rather than too much. Gave his method of filing the molar teeth, which was to file the lingual wider than the labial surface between the teeth; hardly ever left shoulders after filing.

Dr. **Westcott**, of Syracuse, thought this question was also susceptible of division; being on filing for prevention and decay, and filing after decay, preparatory to filling. With regard to the latter branch, it would depend on the age and general habits of the patient as regards cleanliness. Would not file between young children's teeth; preferred the wedging system, uniformly using wood. Dr. W. then gave some account of his method. In adults, who took care of their teeth, he used wedges to prepare for the file. In cases where care had not been taken, filed freely, and as far as he could; also used the cutting instrument in place of the file when possible.

Dr. **Taylor** agreed with Dr. **Fuller**, and generally with Dr. **Westcott**. Used a rounded file, to give a rounded surface, as it makes the best form for mastication. Where he found disentegration of the earthy and animal portions of the teeth, at the same time, and increased sensibility of the dentine, would file even one-third of the tooth away.

Dr. **Forbes** never had filed, never did file, and never would file. About the year 1820 it was the fashion for ladies to have their teeth filed by dentists; and that circumstance, perhaps, influenced his judgment.

Dr. W. B. **Roberts** thought that when a tooth commenced decaying, it needed no filing until ready to fill; preferred to wedge teeth apart.

Dr. **Weeks**, of New York, stated that he had once a prejudice against the file, and was unsuccessful in consequence. When he could separate the teeth in young persons, he did so: preferred not to file in such cases. Saved teeth generally more effectually when he used the file.

Dr. **Allen** had seen cases where there had been constant use of the file, and no decay.

The **President** then announced that Mr. Charles Edwards Lester, a noted literary and political character, was present, and invited him to take a seat upon the stand. Mr. Lester was then conducted to a seat.

Dr. **Vandervoort**, of Pittsburgh, has always found that if soft caries were removed properly with the file, they would never return; white or yellow caries will return.

Dr. **Wilson**, of Boston, wished to know the result of Dr. Forbe's practice in the non-use of the file in superficial decay.

Dr. **Perkins** stated that when he found decay existing to such an extent as to injure the appearance of the mouth, he did not care what he used, but he would remove that decay, and bring the tooth to as high a polish as possible. When the sound enamel was injured, he thought it better to remove it, as he had found that the bone highly polished would resist decay better than the enamel.

Dr. **Chas. Butler**, of Cleveland, thought that so far as superficial decay was concerned, he would not use the file, except on the labial surface of incisors or canines, and then but slightly. Where the teeth were very dense, removal of the decay by the file would save them, if kept clean.

Dr. **Ambler**, of New York, stated that, in his experience, it was not the use, but the abuse, of the file that had created for it its bad name. His own teeth were monuments to the resisting power of the teeth after the use of the file; they were filed when very young, and resisted decay. With regard to removing superficial decay with the file, was strongly in favor of its expediency. Had always filed, did file, and always would file, so long as he had money enough to buy a file.

The **President** said that when decay commenced between the teeth, would not let it extend until it formed a cavity. Related an anecdote of a doctor who proposed to give a patient medicine to produce fits, because he could cure fits. He would not let a cavity grow, because he was good at filling cavities.

Dr. **Westcott** moved that a vote be taken on the question, to file or not to file. Question being put, the majority were in favor of filing.

The hour appointed having arrived, Dr. Solyman Brown made some remarks in relation to his publication. After their conclusion Dr. Allen offered a resolution recommending the work to the public. Considerable debate ensued on the propriety of such a resolution going forth as the voice of this Convention, and it was finally lost. A second resolution was moved and adopted, that "This Convention are glad to hear of the contemplated publication of Dr. Brown."

Dr. **Franklin** moved that the fourth subject for discussion be taken up. Carried.

Fourth question: *Filling teeth.*

Dr. **Perine** came to the Convention as a listener, and would rise only to present to the Convention an instrument for compressing the salivary ducts, invented by Dr. Geo. E. Hawes, of New York. Experimented on a gentleman present. He also explained to the Convention a method of compressing the parotid ducts, by means of sections of an India-rubber ball, to obstruct the flow of saliva.

Dr. **Ambler** was not theoretically a tooth-filler; would confine his remarks to fang-filling, and would describe a mode of filling, which he practised in certain cases. Many patients were unable to pay an operator for the time and expense of filling a tooth as it ought to be filled. When obliged to operate in such cases, had adopted this plan. After excavating the fangs, sent home a gold wedge to the point of the fang, stopping the apex, then filled in the balance of the fang with gutta-percha, then put a gold cap over the gutta-percha, and filled as usual. Had been very successful, and had never seen any objection to this method.

Dr. **Allen** exhibited a case where a ball of cotton was found under a cement filling. The plug remained firm several years. Gave it as an evidence of careless filling. Thought there was nothing as good as gold.

After some argument on the propriety of Dr. **Ambler**'s method, Dr. **Forbes** gave his plan for filling teeth. Spoke of the American reputation on the Continent of Europe. Why does this exceed that of the English profession? It was because we had educated our patients in a knowledge of dentistry. Few patients would go to a cheap operator for cheap work. In England they do cheap work to make it pay, and do not do good work. In England they are better acquainted with anatomy, physiology, and pathology, but Americans had gained their reputation by practical work. Divided his operation into five sections: Preparing the cavity; preparing the gold; preparing the mouth, filling the teeth; finishing.

PREPARES THE CAVITY.—Probes the cavity; takes a large instrument and removes all superficial decay; breaks away the walls of the cavity, and cleans out from the surface to the base with as large an instrument as the cavity will bear. Leaves the mouth larger than the cavity, because he always puts a cap to his filling.

PREPARES THE GOLD.—He cuts up a book at once, in strips, using No. 4 gold. Cuts all into eight thicknesses; makes them into a cylinder, according to the size of his cavities.

PREPARES THE MOUTH.—Wipes off the gum, and lays in the mouth a piece of muslin to dry it, then takes his napkin and folds it round the tooth to support it.

FILLING THE TOOTH.—Supposes a case three lines in diameter; takes a cylinder three lines in diameter, and fills the tooth. If the cavity is three lines deep, makes his cylinder four lines long; secures his first cylinder before he puts in his second; then puts in another cylinder, pressing all laterally, and filling in in the centre, compressing as usual. Dr. Forbes concluded by describing his mode of preparing cylinders.

Dr. **CLARKE**, of Savannah, remarked on the use of foil. Formerly used adhesive foil; now uses unadhesive, made by Dr. Chase. Avoids touching the foil with his fingers. Described a method of folding foil by two blocks, originated by Dr. Parsons, of Savannah. Dr. Clarke exhibited the blocks, and proceeded to fold some foil, which he did with great rapidity, and to the gratification of the audience.

Dr. W. B. **ROBERTS** presented a diagram of a case—a central incisor filled with amalgam. The tooth commenced aching after a time, and caused sickness, discharge, swelling of the glands, &c.; one side became entirely broken away; injected nitrate of silver, used creosote, took a platina pin and drove it to the apex of the root, then with gold foil filled to the break in the tooth, when he built out the crown with gold. The platina formed a strong point to build round the gold.

Dr. **FULLER**, of Portsmouth, (by privilege,) offered the following resolution:

Resolved, That the Treasurer be directed to pay over to Dr. T. Potter, of Norwich, Ct., out of any funds that may remain in his hands after the expenses of this Convention are paid, the sum of one hundred and fifty-four dollars and twenty cents, that being the balance due him for expenses incurred in defence of the Air-chamber Patent suit with Gilbert of New Haven.

Dr. Franklin wished to know if this was to establish a precedent.

Dr. Fuller stated the facts of the case, and spoke strongly in favor of his resolution. The President also spoke in favor of the resolution, and after some debate it passed unanimously. Discussion continued.

Dr. Fuller, of Portsmouth, had changed his mode of filling; did not consider we needed undercuts or shoulders—the gold only binds at the orifice—they leak and get soft. Now he used gouges, and by his leverage could cut away the enamel and cut out the fissure, giving him a large orifice. Described his mode of preparing gold. Packs laterally, and interlaces little folds of foil until the cavity is full; then compresses with great force. This, the cavity being wedge-shaped, he thinks the best manner of using foil. Can only be used in deep cavities.

Dr. Bristol considered it sometimes impracticable to make the cavity larger at the orifice. Thought it possible to fill with an undercut with complete success. Sometimes had a tooth to fill which was frail, delicate, and would not bear great pressure; desired information as to modes of filling such cavities. Thought he could not condense as much gold as Dr. Forbes stated he used in filling, viz.: a line and a half; thought we should condense the least possible amount of gold at a time. In this way thought frail teeth could be best filled.

Dr. Taylor thought cavities should be plugged with regard to their forms. Spoke in relation to cylinder and block fillings.

Dr. Barker thought there had been few cases of difficulty presented, and desired that some one should explain such cases.

Dr. Atkinson said, we all had our darling modes of saving teeth; he did not care for the mode if the object was well obtained. Spoke at some length on the use of the mallet; the most difficult case he knew of was, where there was pereösteal disease; must then clean out the tooth to the point of the fang. When your cavity is open, use pledgets. Uses creosote and iodine. There is nothing so good to compact matters as the mallet. Described his use of the instrument. As to building up, thought a good compact filling needed no wire.

Considered it important that the articulation should be good. Uses the mallet throughout the operation. Described with board and chalk his mode of operation. Dr. Atkinson's remarks were quite lengthy, and were listened to with much attention and interest, calling forth considerable remark, and evincing on the part of the speaker thorough knowledge and ability.

Some discussion now ensued on the next place of meeting. Votes were taken on various cities, and on motion of DR. WATT, it was finally resolved that "This Convention adjourn on Friday, at twelve o'clock, to meet at Saratoga Springs the first Tuesday in August, 1860."

The Convention then adjourned.

Fourth Day.

FRIDAY MORNING, AUG. 5th.

The President called the Convention to order at nine o'clock. Minutes of the last day's session read and approved.

DR. MILLER presented an instrument for extracting teeth by electricity.

The fifth subject for discussion was then taken up. "*Mechanical Dentistry.*"

DR. FRANKLIN reflected upon the action of the Committee in placing this subject last in the list. Considered it a very important one, and time would not now allow him to express himself upon it in a manner as full as the subject deserved. Commented on the necessity for care in the selection of teeth, and compared the subject with others in the profession; hoped that in future the Committee would allow greater space to this topic; members had gone away dissatisfied with the results of this Convention. Dr. Franklin then spoke in favor of the continuous gum and vulcanite rubber; they combined all the points necessary to satisfy, in purity of combination.

DR. DUNN, of Delaware, referred to porcelain work, and exhibited cases.

DR. LOOMIS, of Washington, claimed to have perfected a new style of manufacturing artificial teeth by making teeth and plate continuous, using minerals instead of metals.

DR. FULLER, of Peekskill, described his method of regulating articulation.

DR. JOHN ALLEN, of New York, would make some remarks on the continuous gum work, leaving his own name out of the question. Many using this work were seeking light upon the subject. Would answer some of the questions he expected would be propounded. Does this work stand the test? It has stood from five to seven years without injury. Can it be repaired? It is easily repaired. When a tooth becomes broken, the breakage is less than in any other work. When broken, the tooth is ground down, a new one set in, and more fusible material is placed in the joint which unites them. Is it not too heavy? If you have a perfect set you cannot tell the weight by the feeling. The teeth should have pressure on the inside rather than the outside. An advantage is, that the dentist can select, arrange and get his expression just as he wishes.

The dentist should possess artistic skill to enable him to make good selection; he should aim to reach the highest point of perfection.

Dr. Goldey, of Owego, thought patients complained of the weight, but without grounds. Absorption is produced by this weight.

Dr. W. B. Roberts wished to know if pressure on the Alveolar process produced absorption. The President thought it did.

Dr. Butler, of Cleveland, thought absorption went on faster by pressure; mouths differ as to the amount of the absorption.

Dr. Roberts gave a case of the lower jaw; he put in a temporary plate on silver, which fitted; the jaw settled away, and he filed down; had to make another temporary plate, and finally a permanent set on platina: the Alveolar process was entirely absorbed.

Dr. Chase wished to know if in continuous gum the plate contracted in baking; and if so, how to get over the difficulty.

Dr. Allen explained. Some argument followed in reference to shrinkage in continuous gum-work, between Drs. Franklin, Roberts Chase, Rogers, Allen and others.

Dr. Wilson then read a very interesting paper on "Dental Quacks and Quackery." At its conclusion it was unanimously resolved, "That the thanks of this Convention be tendered to Dr. Wilson, for his very able and interesting paper."

Dr. Fuller, of Portsmouth, then rose, and continuing the subject, made some very affecting remarks in regard to the position of dentists toward their patients and before the world.

"Miscellaneous Discussions" being now declared in order, Dr. Taylor read a paper upon professional intercourse. On motion, the time of adjournment was extended to one o'clock.

The **President** mentioned an experiment to show the expansion of plaster of Paris by filling an egg-shell with the material.—[See article on this subject in the present No. of the Journal, by Dr. Franklin.—Eds.]

Dr. Fuller, of Portsmouth, offered a resolution complimentary to the retiring officers. Carried unanimously.

On motion, a resolution was passed, thanking Dr. Rogers for the efficient manner in which he had conducted the meetings of the present Convention, and appointing him a committee to arrange matters for the next meeting.

Dr. Taft read a case of cancerous tumor on the under side of the lower jaw, from J. W. H. Tefft; various instruments, full and partial sets, &c., were then presented, and miscellaneous discussions were carried on.

Dr. Forbes read a letter from *Eno. Sanders*, of Syracuse, on experiments with oxyde of zinc for filling teeth.

After some remarks by the President, the Convention finally adjourned.

[At last we have a State Society, and it only remains for the members to identify themselves with its interests, and labor to elevate it in the eyes of the profession, for it to take a firm position, and hold it. In this connection, we would refer to the communication in this Journal, from Prof. Westcott, as a paper deserving careful consideration. We give below the proceedings of the New York Society.—Eds.]

MINUTES OF THE NEW YORK STATE DENTAL CONVENTION.

Pursuant to a call published, a large number of the profession of New York city, State, and adjoining States, met on Tuesday morning, 6th September, at Cooper Institute, for the purpose of organizing a State Dental Association. Dr. T. H. Burras, of N. Y., was called temporarily to the Chair, for the purpose of organizing the Convention.

On motion of Dr. F. Clark, Dr. G. H. Perine was appointed Secretary *pro tem.*

On motion, the Secretary read the call. After which, it was resolved to proceed to the election of permanent officers for the Convention, by ballot.

Drs. F. H. Clark, and W. B. Roberts, of N. Y., were appointe Tellers.

Dr. John Allen, of N. Y., was elected permanent President; Dr G. H. Perine, of N. Y., Recording Secretary; Dr. J. G. Ambler Treasurer; Drs. E. D. Fuller, of Peekskill, W. B. Hurd, of Williamsburgh, S. C. Crittenden, of Rochester, A. Blakesley, of Utica, and W. C. Harvey, of Buffalo, Vice Presidents; Drs. J. G. Ambler, and B. W. Franklin, were appointed a Committee to wait upon the President to the Chair.

On motion, it was resolved that any essays, letters, or papers, be now in order, and read before the Convention.

The President then read an interesting paper, for which see page 183, from Dr. A. Westcott, of Syracuse. When on motion, the paper was received, and a vote of thanks tendered.

A resolution was offered declaring that it was expedient to establish a New York State Dental Association. The resolution was put to vote, and unanimously carried.

On motion, a cordial invitation was extended to all members of the profession from other States present, to take part in the deliberations of this Convention. After which a resolution was adopted, that a Committee of five be appointed to retire and report on a title and plan of organization. The following were appointed:

Drs. B. W. Franklin, N. Y., L. W. Rogers, Utica, W. B. Hurd, Williamsburgh, A. McElroy, N. Y., and E. D. Fuller, Peekskill.

On motion, that when we adjourn, we do so to meet at 7½ o'clock P. M., at the same place.

During the absence of the Committee, the Convention spent the time in desultory debate on the best means of association, and discriminating between quacks and regulars.

On return of the Committee, the Chairman presented the report.

When on motion the report of the Committee was accepted, and resolved that it be taken up article by article, amended and adopted as deemed proper.

PREAMBLE.

We, the Dentists of the State of New York, believing that frequent intercourse and interchange of opinion will secure greater unity of feeling and action, and lead to individual improvement and the elevation of our profession, do hereby form ourselves into a society, under the following

CONSTITUTION.

Art. 1. This organization shall be called the "New York State Dental Association," and shall hold its regular sessions on the second Tuesday in September and March, in each year, after the present, at such places as may be designated by the Association.

Art. 2. The officers shall be a President, two Vice Presidents, a Recording Secretary, a Corresponding Secretary, and a Treasurer, who shall be chosen annually by ballot, at the session held in September; but if no choice should be made at that time, they shall continue in office until their successors be chosen.

Art. 3. The President shall preside at all the meetings, or in his absence one of the Vice Presidents, or in their absence a President shall be chosen *pro tem.* The Recording Secretary shall keep the records; the Corresponding Secretary shall conduct the correspondence, and give due notice of all the meetings; the treasurer shall receive all moneys belonging to the Association, and disburse only at the order of the President, and he shall report at each regular session of the Association.

Art. 4. The officers shall together constitute a Board of Managers, to whom all applications for membership, and all claims against the Association, shall be referred; but the action or non-action of this Board may be overruled by a majority vote of the Association.

Art. 5. Any dentist of this State in good standing, who shall be approved by the Board of Managers, and by a vote of the Association, may become a member by subscribing to the Constitution and complying with its requirements.

Art. 6. Each member shall pay into the treasury the sum of two dollars annually, and such other tax as may be legally imposed, not exceeding five dollars, in any one year; and any member who shall refuse or neglect to pay his dues, after reasonable notice, shall forfeit his membership.

Art. 7. This Association shall not assume to decide upon the merits of any dental material, instrument, theory, or mode of practice that may be in dispute among its members.

Art. 8. Twenty members shall be necessary to constitute a quorum for the transaction of business; but a smaller number may meet and discuss questions of interest to the profession, and adjourn from time to time until a quorum can be obtained.

Art. 9. Dentists residing in other States may be admitted to honorary membership in this Association, upon the conditions and qualifications of other members; but they shall have no vote upon any question touching the organization or government of this Association.

Art. 10. Notice of any proposed change in this Constitution must be given at a regular meeting by one-third of the members present; it shall then lie over until the next regular meeting, when if it be approved by two-thirds of the members present, it shall be adopted.

The preamble, first, second, and third articles, were read and adopted.

When on motion adjourned.

EVENING SESSION.

Convention met pursuant to adjournment; Minutes read and adopted, President in the chair.

After the reading of the Constitution as reported by the Committee on organization, it was considered and unanimously adopted.

On motion, a vote of thanks was tendered to the officers of the Convention, for the faithful manner in which they had discharged the duties devolved upon them.

A vote of thanks was also passed to the Reporters who had been present during the deliberations of the Convention.

The election of officers was now proceeded with. Dr. A. McElroy of N. Y., and Dr. A. Clark, of Poughkeepsie, were appointed tellers.

President, Dr. A. Westcott, Syracuse; Vice Presidents, Dr. John Allen, New York, and Dr. W. C. Harvey, Buffalo; Recording Secretary, Dr. Geo. H. Perine, New York; Corresponding Secretary, A. Clark, Poughkeepsie; Treasurer, Dr. W. B. Hurd, Williamsburgh.

On motion, it was unanimously resolved that the officers of the New York State Dental Association, be a committee to consider the propriety of establishing a Dental Institute for the State of New York, under the supervision of this Association, and report at the next regular session.

Numerous applications were made for membership, which were referred to the Board of Managers. When on motion adjourned to meet on the second Tuesday of March, 1860, in the city of New York.

Convention adjourned *sine die.*

The first meeting of officers of the New York State Dental Association, took place on Monday evening, Sept. 26th, the President, Dr. A. Westcott, of Syracuse, in the chair. After miscellaneous business was got through with, about forty names were presented for admission as members, and acted upon, subject to the final decision of the Association. Adjourned to meet on Thursday evening, Oct. 6th.

Pursuant to adjournment, the officers of the Association met at the time appointed, Dr. Allen in the chair. After receiving further names for admission, on motion adjourned to meet in Albany, on call of the president.

EDITORIAL AND ITEMS.

In another portion of the Journal will be found a report of the proceedings and discussions of the American Dental Convention, at their annual meeting held at Niagara Falls, Aug. 2d, 1859. Having made our own report, we tried to have it as accurate as possible, and as full as our space would permit us to publish. In such meetings, there is always much said that it is unnecessary to publish. Indeed, nothing should be published that may not be of value to the reader. With regard to this Convention, we desire to say that we have seldom seen meetings of more intelligent, refined men, or more ably and properly conducted than this. It has seemed to us that there was an attention to the business of the hour; a desire for improvement, and to improve others; and an exhibition of courtesy and good feeling most gratifying to witness. And we say from our hearts, and we know the sentiment will be echoed by every dentist in the Union,—Long live the American Dental Convention! May its existence and well-being be as lasting as its usefulness and strength are undeniable.

One of our most pleasing reminiscences of the late Convention, and which we have not even seen mentioned in any of the current journals, was the following pleasant incident:

During the Convention, it was announced by Captain John Travers, the noted pistol-shot, that he would give a prize of a silver goblet, appropriately engraved, to that member of the Convention who should make the best six consecutive shots. Time and place were appointed, and there gathered together some twenty-five dentists who soon might have been seen, pistol in hand, in harmless but exciting combat,—Chase, of Ohio, and Hunter, of Cincinnati; Wilson, of Boston, and our worthy selves, of the Empire State; North, South, East, and West, all were represented. The shooting was very equal, and for a time the balance hung low in favor of Lewis, of Tallahassee, Florida; but the "Catawba State" came in and won, in the person of our esteemed friend Dr. Hunter, of Cincinnati. On the same evening, a large and merry party met in one of the parlors of the International, to witness the presentation of the goblet. Chaste and white, it lay wrapped in its soft resting-place. The Captain, though a sharp-shooter, is not a talking man; but he placed his cause in good hands, and certainly we have never listened to a more neat, piquant presentation speech than the following, made by Cyrus E. Davis, Esq., of Niagara Falls, on presenting the reward of his skill to our successful friend:

"Dr. Hunter—I am charged by Captain Travis with the pleasant duty of presenting to you a silver goblet, on his behalf, as a token of his appreciation of the excellence and skill to which you have attained in the use of the pistol, an art in which he himself is so world-wide renowned, and of which he is so successful a teacher. I may, perhaps, be permitted to say on this occasion, that the skilful use of the pistol is no ordinary art; and indeed it may be ranked as an elegant, if not a necessary, accomplishment to every gentleman of the present day. Pistols were first made at Pistoria, a provincial town of Tuscany, near Florence; it was a republic in the middle ages, and it is a significant fact that, while a republic in the Old World is distinguished for the invention of the pistol, the republic of the New World should be so highly distinguished for the successful use of it. It seems to be the common property of republics, and peculiarly to belong to them. It is no mean encomium on the little weapon to say that, true to its birth, it has also done good service for republics against the tyranny and oppressions of the monarchies of the Old World. It has protected the honor of our country, and the honor of our country's flag,—the lives of our fellow-citizens, and the security of their homes and hearths. And while so effective in war, it is none the less serviceable in peace; for to-night it brings us the silver goblet, ready for the reception of the peaceful fruits of the vintage. Long, sir, may you live to use and enjoy it. And when, in your distant home, you shall have occasion to taste of the fruits of the vine from this bowl, I trust you will allow yourself in memory to wander back to this little spot beside the waters and the groves of Niagara; and in so doing, I have no doubt that you will drink deep to the health of our excellent friend—Captain John Travis; in whose name, and on whose behalf, I now have the honor to present you with this silver goblet, to which you have shown yourself to be so fairly entitled, and which by your skill you have so well merited."

At the conclusion of the gentleman's remarks, Dr. Hunter stepped forward, and modestly confessing himself unequal to the occasion, suggested that the capacity of the cup should be the test of his appreciation of the gift. The gentlemen present, immediately, upon his invitation, adjourned to the bar of the hotel, when sparkling wine soon foamed over the silver rims of the beautiful cup, and carried life and warmth to the bosoms of all present. Thus ended the "Dentists' shooting match."

WE have received and beg to acknowledge, "Higginson's Map of Europe," comprising Sardinia, Switzerland, Italy, and a large part of France and Germany. Published by J. H. Higginson, 77 Chambers street, New York, 1859.

THE Family Dentist, Vol. I., No. 1, published monthly, at 50 cents *per annum*, at 648 Broadway, New York, and 10 Baronne street, N. Orleans. Dr. B. F. Smith, editor.

American Journal of Dental Science. July and October.
Dental Register of the West. August and September.
Dental Enterprise. August and September.
Dental Cosmos. August.
L'Art Dentaire. June.
Boston Medical and Surgical Journal.
British Journal of Dental Science.
Weekly Scientific Artisan.
American Dental Review.
London Dental Review. 6 Nos.

WE have also received copies of the address of Dr. E. T. Wilson, of Boston, read before the late Convention at Niagara Falls. As a finished effort to expose dental quackery, we regard this a great success, and worthy to be spread far and wide. Whom the coat fits let him put it on, and the sooner he *turns* it the better.

ALSO, the Fifteenth Annual Announcement of the Ohio College of Dental Surgery. Session 1859 and '60.

The regular course of lectures before this Institute will commence on the first Monday in November next, and continue to the 20th of February, succeeding. Preliminary courses from and after Oct. 17th.

ANNUAL Announcement of the Pennsylvania College of Dental Surgery. Session 1859 and '60.

The session commences on Tuesday, Nov. 1, and continues until March 1. Preliminary lectures will be delivered each day during the latter half of the month of October, commencing on Monday, the 14th inst.

MANY improvements and new inventions were exhibited at the late Convention at Niagara Falls. We could not obtain the titles of all, but will have to make mention of such as came under our notice, and will be of interest to the profession. Messrs. Franklin & Sproul, of New York, presented some beautiful specimens of continuous gum work, among which were cases designed to restore the contour of the face, which can often be most perfectly effected. Many cases presented seemed perfection itself.

AN ingenious and effectual appliance for closing the salivary ducts, invented by Dr. Geo. E. Hawes, is a very neat silver instrument which no dentist should be without. It will enable the operator to stop the teeth in the inferior maxillary, without the usual annoyance of having the mouth flooded.

Dr. M. Levett, of New York, exhibited cases of atmospheric pressure plates, constructed with chambers or cavities on the alveolar ridge. This he considers an improvement over any other style of chamber. By a number of small cavities on the ridge, he dispenses with the inconvenience of covering the palatine arch, while the difficulty of constructing it is not increased.

Dr. John T. Toland, of Cincinnati, presented a neat apparatus invented by Dr. A. F. Merriman, of Columbia, Ky., called a *tongue* holder.

Dr. B. W. Franklin exhibited a lower partial impression cup; it has many advantages over any now in use.

He also presented interesting specimens of the vulcanite rubber base.

A USEFUL forceps was presented by Dr. C. H. Dubs, of Natchez, Miss., which is satisfactorily used by many of the profession. It is constructed with a screw to penetrate the fang,—the beaks of the forceps to grasp at the same time,—with an attachment of screw, square, ratchet, shaft, catch, and spring trigger.

Dr. I. Forbes, of St. Louis, Mo., presented pluggers, scalers, gouges, &c., which may be used with an adjustable handle.

Dr. John T. Toland exhibited some finely-finished forceps of various descriptions; also, a convenint dental lathe.

Dr. M. Loomis, of Washington, and Wm. E. Dunn, of Delaware, O., presented specimens of porcelain dentures, which were fine in design, and exhibited taste in carving of the teeth.

Dr. R. W. Archer, of Rochester, N. Y., exhibited a beautiful dental chair. It has combined all movements that may be required; the seat moving with the back is an advantage. The entire apparatus of the chair is simple and strong.

Dr. E. A. L. Roberts exhibited an apparatus for vulcanizing, which we have before spoken of.

Messrs. Johnson, Lund & Neall, of Philadelphia, exhibited a neat style of tooth, invented by Dr. Theo. Bradish, of Utica, N. Y.

These teeth are backed with platina plate baked in the tooth, with anchors from the backing penetrating the tooth instead of pins, adding to their strength, and a saving of labor to the dentist.

Dr. W. B. Roberts, of New York, presented fine specimens of Crowell's rubber, continuous gum, and other styles of teeth.

Dr. D. H. Porter, of Bridgeport, Conn., also presented fine specimens of teeth—rubber and continuous gum; also, samples of teeth having that natural bony-like texture, which are only to be seen to be admired.

Dr. G. R. Reynolds, of Waterbury, Conn., presented what he calls "toothpicks." They are rubber strips put in metallic cases, and drawn through the orifice in the top, to be used between the teeth and for regulating purposes.

QUARTZ FILLING.

Since the presentation of this composition to the "American Convention," at Boston, in 1857, by one of our editorial corps, we are pleased to learn, experiments by various parties have been conducted toward its perfection. In cases where metallic substances would not be practicable, quartz has been tried by many parties, and with great success. Many of the profession have expressed themselves favorable to its practicability. The experiments of the originator have not been continued, owing to various causes; but we are glad to find that this has not caused their being discontinued by others. Dr. James Pearson, of this city, offers a similar substance to the profession, as will be seen by our advertisement pages.

OUR anxiety to present our readers with the latest minutes of the proceedings to establish the "New York Dental Association," has delayed our appearance until the present time. We hope to avoid such contingencies in future.—EDS.

CONNECTICUT STATE DENTAL CONVENTION.

WE are pleased to learn that the profession of Connecticut are taking steps to organize a "State Convention." Let the ball roll onward—it is certain to pick up something besides sticks and dirt in its progress. A few seeds, here and there, sown by the wayside, may spread into a green and luxurious tree hereafter.

J. Wesley Clark, a native of Liberia, and an intelligent and gentlemanly young man, has been for a length of time preparing himself for our profession, under the fostering care of Dr. Royse, of Newburgh, with the kind assistance of Drs. Franklin, Allen, and others. We have in our possession a specimen of his work in artificial dentistry, which speaks well for his mechanical abilities. Mr. Clark returns to Liberia to practice among the sojourners of that country, and thus spread American teaching and practice.

We regret to learn that application was made through the President of the American Colonization Society, to the dental colleges in this country for his admission, and without success. Institutions which are organized to foster talent and industry, should not regard color or birth in their choice; such bigotry is unworthy this age and country.

THE cane-head received from Dr. Gifford, of Westfield, N. Y., has been mounted upon a hickory stick from the "Hermitage," the birthplace and present resting-place of General Andrew Jackson.

IN a suit for damages, in London, for breaking a patient's jaw, by a dentist in extracting a tooth, the jury returned a verdict for the plaintiff—damages £10.

WONDERS OF CREATION.—The Savannah *Republican* of the 28th, says: "We are credibly informed that a female child was born in this city, a few nights ago, that had six fingers on the right hand, seven on the left, six toes on each foot, and a full set of teeth both in the upper and lower jaw. It died soon after birth.

DEATH FROM CHLOROFORM.—Mrs. Matilda Klein, wife of Dr. Carl Adolph Klein, of this city, having suffered greatly from nervous toothache, used chloroform to assuage the pain. On Thursday night she retired to her room, she and her husband occupying separate apartments on account of his having a young child to attend to. During the night it is supposed that she took too large a dose of chloroform, as she was found dead next morning. The coroner's jury found a verdict to the same effect.

WE have received from Dr. S. S. Blodgett, of Ogdensburg, N. Y. a sample of his "Persian Balm." From the knowledge we have of it through those who are using it, we can recommend it to the profession and our patients. See advertisement.

IT is said that $1,500,000 were paid to the four hundred and fifty dentists of the city of New York, during the year 1858, for services; being an average of more than $3,000 each.

WE have received a prospectus from Dr. Solomon Brown, of his "Biographies of Distinguished Dentists of America." The topography and general appearance of the specimen is good. We would, however, suggest to Dr. Brown, that he pay respect rather to the dead than the living; the latter are able and willing to praise themselves.

WE beg to acknowledge the receipt of proof-sheets of the Minutes of the National Dental Convention, from our friend McQuillen. Space will not permit our publishing this interesting document.

Dr. W. M. Wright, of Pittsburgh, called upon us a few days since, on his way to Europe. The Doctor looks well, and has promised to let us hear from him if anything presents of importance to the profession.

Gold Foil.—We have received a sample of soft foil manufactured by Messrs. Sutton & Raynor, of this city, which works as well as any of the kind we have used. We had the pleasure of testing it upon ourselves, and speak from our own knowledge. It is put up in as small packages as 1-14 oz. books, at $28 the ounce.

DENTAL ANOMALIES.

We have received from Drs. Van Vleck, of Hudson, (Fig. 1,) and C. S. Weeks, of New York, interesting specimens of osseous union of the second and third molars, (Fig. 2,) belonging to the second dentition. Although such cases are not unfrequent, we have never met with any so perfect and interesting as these.

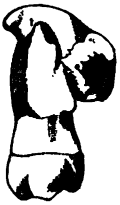


Fig. 1.

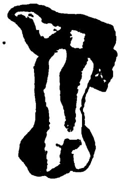
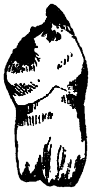


Fig. 2.

We have received also an interesting specimen of a central incisor of very large size, which occupied the space of two centrals of the first dentition, having rather the appearance of two roots, one being quite



considerably absorbed. This was removed by Dr. Chittenden, of Rochester, to make room for the second incisors.

From Dr. Stoddard, of New London, we have received an old case of teeth, which was made in England, many years since, of hippopotamus tusk as the base or plate. Mounted with calves' teeth at a large expense to the parties who wore it for years, it was afterwards duplicated by the late Dr. Sizer, of the above-named place.

The following letter is kindly handed to us by Dr. B. W. Franklin, who lately received it in the course of his correspondence, and being anxious for the enlightenment of his race, is willing to lay it before the public. We have no doubt the "*schoolmaster is abroad*," from the locality whence it emanated:

" *October* 1. 59

" Dear sur I received yours of the 19 stating that you did not receive my letter of Augest the 31 59. now I have good reason to think that it is not trewe as I had the letter regerset and the Post master here has a recipt from your postmaster in N York that the same letter was delivered thare & no man but yourself could get it out. now what is the yous of you addvertising a article to sell when you will not sell it I have written to you three times to no what you would Charge mee for the rite to use that prozes, now what is a man to doo, now you can keep your gum and the $3 and your pattent and go to hell with them and I will publish your astablishment "Yours."

Owing to press of matter, several articles must necessarily lay over until next number.

2

Vol. 1. No. 1.

CATALOGUED

THE
NEW YORK
DENTAL JOURNAL.

EDITED BY

FRANK H. NORTON & GEO. H. PERINE;

JULY 1858.

NEW YORK:
GEO. H. PERINE, PUBLISHER & PROPRIETOR,
OFFICE No. 13 *BIBLE HOUSE,*
ASTOR PLACE.
....
1858.

GROSSMAN & SON, Printers, 138 Nassau Street, N. Y.

CONTENTS.

Page.
Prefatory.. 1
Glance at the History and Progress of Dental Science... 4
Life of John Hunter, F. R. S........................ 8
Principles and Practice of Dental Surgery. [From the "*Edinburgh Medical Journal.*"]...................... 20
Continuous Gum Work; By Dr. B .W. Franklin. *With two cuts* 33
Anæsthetics. [*Appleton's New American Cyclopædia.* Vol. I.].. 44
Bibliotheca Odontalogica........................... 49
Gutta Percha Impressions for Partial Sets. By C. S. Putnam. 50
Minutes and Discussions of the New York Dental Association.. 51
Society Elections, &c.
Michigan Dental Association.
Nothern Ohio Dental Convention.
St. Louis Dental Society.
Western Dental Society.
American Dental Convention.
North Carolina State Dental Society................. 61
Reviews.. 63
Editorials and Cuttings............................ 64

AN ASSOCIATE WANTED.

A young first class operator who has been in the practice of **Dental Surgery** about ten years, desires to form an association with an operator of the first standing with good practice. With one who has a large and increasing practice in any of the Eastern or Western Cities who desires an assistant or partner, he would be pleased to correspond with a view to further negociations. The advertiser for a few years past has been practising in Mass., and from any of the citizens where he resides he can procure certificates of successful practice and good attainments, and for a number of years he has had the professional care of two or three young ladies' boarding schools among the first in the country.

For particulars address or apply to

Dr. G. H. PERINE,
No. 55 *East* 19*th St.*

Or The N. Y. Dental Journal,
No. 13 *Bible House, Astor Place, N. Y.*

GUTTA PERCHA

At reduced rates, for

IMPRESSIONS,

And other purposes, for sale by the undersigned in dollar packages, at the NEW YORK DENTAL LABORATORY, No. 35 Bond St., N. Y.

J. E. SCHUYLER.

THE PROFESSION

Can be furnished with a neat form of

BILL HEAD,

Containing Cuts, &c., a reference to the patient,

Price $1,00 per. Hundred,

The profession can be supplied by applying to Editors of N. Y. Dental Journal, 55 East 19th, or 138 Nassau St., N. Y.

B. W. FRANKLIN & SON,

DENTAL LABORATORY,

57 BOND STREET,

NEAR BOWERY, NEW YORK,

FOR MAKING CONTINUOUS GUM WORK

FOR THE DENTAL PROFESSION.

I am authorised by the Patentee, Dr. John Allen, to say, those wishing to introduce Continuous Gum Work in their practice, can do so, and no advantage will be taken until a final decision is had in the United States Courts, after which, if the decision is in his favor, he will expect a reasonable price for Office Rights, or a discontinuance of the making of this kind of work.

The following directions will enable all to understand what is required in order that the work be done with the least delay:—

Those residing out of the city, can raise their plates of Platina slitting the front of the plate and lapping it over and solder with pure Gold for greater strength, leaving the edge of the plate one sixteenth of an inch wider than is required when finished, for a rim which is to be turned over after baking the first coat of body. With this exception, the plate is swaged and fitted the same as Gold or Silver plates; after the plate is corrected in the mouth, arrange Continuous Gum Teeth to wax on the plate the same as plain teeth on Gold or Silver; and if any restoration of the face is intended, build wax on the plate over the fangs of the Teeth, until the desired expression is obtained, then let the cutting edges of the Teeth into a batter of plaster to prevent displacement, and the case can be forwarded per Express or otherwise and finished as well as if done in your own Laboratory.

OUR LIST OF PRICES.

For Cases from Impressions, per case,	$20 00
" Show Pieces, "	15 00
When Plate is raised and Teeth fitted, per case,	9 00
" " " and baked,	7 00
When ready for Body and Gum, per case,	6 00
For Continuous Gum Blocks, per Tooth,	75
" Baking when Dentists apply Body and Gum,	2 00

The above prices include all materials.

Our warrantee extends only to the mechanical execution of the work, and not to its adaptation to the mouth.

OUR PRICES ARE FOR DOING THE WORK ONCE.

Alterations or modifications thereafter will be charged for.

Terms: Cash on delivery.

B. W. FRANKLIN & SON,

NO. 57 BOND STREET,

Near Bowery, NEW YORK.

THE
Vulcanite Base.

DENTISTS

Who wish to test this style of work can do so by observing the following

DIRECTIONS:

Arrange the Teeth upon a Plate of Gutta Percha or Wax, first pressed while warm upon a small Plaster Model of the Mouth, forming Wax inside and around the Teeth as may be desired in the

VULCANITE MATERIAL,

and forward the whole (Teeth Plate and Model,) to the undersigned and it will be returned ready for polishing on the day after its reception.

Any style of Plate Teeth can be used by bending the Pins a little towards the cutting edge.

Care should be observed not to leave Wax between joints of Gum Teeth or Blocks.

The first piece received from each Dentist will be VULCANIZED without charge.

For each Piece thereafter the price will be $5. Which amount must invariably accompany the order.

For Polishing $2 extra.

C. S. PUTNAM,

35 BOND STREET, NEW YORK.

SPECIAL NOTICE.

CHEVALIER'S INSTRUMENTS.

DISCOUNT.

I have heretofore adhered to the rule of making no Discount to any but the trade, but being convinced of certain practices among most of the dealers, which had a tendency to increase my wholesale at the expense of my retail trade, I have determined from this date to make the following discount to Dentists,

VIZ:

On all purchases made at my store for cash, or orders by mail or otherwise inclosing the cash, ten per cent on all sums from ten to seventy-five dollars. From seventy-five to two hundred, twelve per cent. discount; and one per cent. additional on every fifty dollars, up to five hundred.

NO DISCOUNT ON GOLD FOIL, PLATE, OR PLATINA.

"Always send money enough to pay for what you order, and the surplus, if any, will be returned in specie with the goods."

This discount of ten per cent, reduces the price of my celebrated Fifteen Dollar Dental Lathes to Thirteen Dollars and Fifty Cents. Forty Dollar Operating Chairs to Thirty-Six Dollars. Finest Octagon Crocus polished Forceps, from Two Dollars to One Dollar and Eighty Cents; and in that proportion through my entire Catalogue, when the amount exceeds Ten Dollars as before mentioned, and still cheaper when over Seventy-Five.

MY ILLUSTRATED CATALOGUE, which will be found an excellent guide in making out orders, will be forwarded gratis, on receipt of address.

The Expresses afford facilities for the transmission of goods to the remotest towns in the States and the Canadas, and as the expense on small packages is but a trifle more for a thousand than for ten or twenty miles, Dentists are sure to do better by sending their orders, no matter how small, direct to me, than by purchasing from pedlers.

The assistance of my two Sons, whom I have associated with me, in consequence of my increasing business, will ensure a continuance of the prompt execution of all orders with which my friends may favor me.

JOHN D. CHEVALIER.
Manufacturer of Dental Instruments.
Ware Rooms, 360 Broadway, New York.

New York
TEETH MANUFACTURING CO.,
404 Broadway, New-York.

This Company invites the attention of the Dental Profession to their improvements in the manufacture of Teeth during the past year.

The beauty of their Gum is now unsurpassed,—and for strength and form these Teeth are now taking rank, in the opinion of competent judges, among the best in the market.

* * *

GUM RUBBER TEETH,
AND
GUM RUBBER SECTIONS,

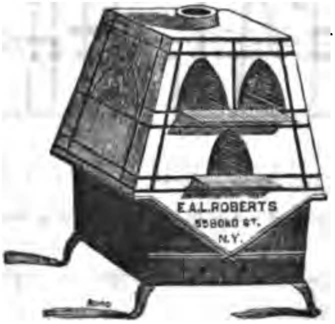
ARE FURNISHED BY THIS COMPANY, OF THE MOST APPROVED FORMS AND SHADES.

VULCANIZED RUBBER WORK.

It is three years since the use of India Rubber as a base for Mineral Teeth was introduced to the attention of the Profession ; and experience has constantly demonstrated its advantages. This Company is prepared to execute this class of work for Dentists, in the best style and at the shortest notice.

All communications addressed to the N. Y. TEETH MANUFACTURING COMPANY, 404 Broadway.

E. A. ROBERTS
DENTAL DEPOT,
55 Bond Street.



*Manufacturer of Platina Plate, Platina Wire
and Melter and Refiner of Platina
Ore and Scraps, Gold, &c.*

ALSO,

Manufacturer of the only genuine article called Allens continuous Gum and Body for continuous Gum Work, &c.

Keeps constantly on hand all kinds of Dental Instruments and Bench Tools, for a

DENTAL LABORATORY.

Furnaces, Muffles, fine Clay, Platina, and Gold Plates,
SOLDER, &c.
Teeth, &c. the best Manufacturers,

Price for melting Platina Scraps will be 50 *cts. per oz., for* 10 *oz., or more; and* $1,00 *per oz., for less than* 10 *oz.*

All orders by mail or express, promptly attended to

TERMS CASH,—BY E. A. L. ROBERTS,
BOND STREET.

CROWELL'S

TEETH MANUFACTORY

AND

DENTAL DEPOT,

No. 87 BLEECKER STREET,

(Near, and a few doors west of Broadway,)

New York.

A good assortment of shades and sizes of Teeth, at the following reduced prices:

Gum Teeth,	**15 cents.**
Plain Plate,	**8 "**
Continuous Gum or Allen's, do.	**8 "**
Blocks or Sections for Rubber, or cast work,	**20 "**
Gum Teeth, " "	**15 "**

The undersigned embraces this opportunity to thank the Profession for the very liberal patronage always extended to him, and would ask for the above concern a continuance of the same

J. M. CROWELL.

Refers to the following Dentists, who use teeth made by him:

Drs. ALLEN,
" AMBLER,
" ANDERSON,
" BARLOW,
" BEARDSLEY,
" BROWN.
" BURRAS,
Drs. CLARK,
" CLAY,
" DALRYMPLE,
" DODGE,
" DURKIN,
" DWINELLE,
" GOODELL,
Drs. GUNNING,
" HASSELL,
" HERRIOTT,
" JARVIS,
" KEYS,
" KINGSLEY,
" LAROCHE,
Drs. LEFLER.
" LEVETT,
" LORD,
" McILROY,
" MAIN,
" PARMLY,
" PUTNAM,
Dr. ROOT, &c., &c.

DR. M. LEVETT'S

IMPROVED

Atmospheric Pressure Dental Plates,

[Letters Patent granted, April 6th, 1858.]

The Inventor and Patentee of these Atmospheric PRESSURE PLATES, desires to call the attention of his professional brethren to their great value and excellence, doing away with the common "central cavity" plates now in use.

The Upper Plate is much smaller, rendering it considerably lighter and more comfortable to the patient, and saving from two to three penny weights of Gold in every upper set, and more in proportion of platina. In both the Upper and Under Sets, the power of adhering is far stronger, as the Atmospheric Pressure principle is brought to bear by an entirely novel and ingenious application. This gives much greater satisfaction to the patient, and requires less trouble in adjustment.

As the Patentee feels perfectly assured of the great value of his Invention, he wishes to give it a wide popularity, and to allow his fellow practitioners to enjoy its benefits. With this invention, he is prepared to dispose of OFFICE RIGHTS on exceedingly moderate terms, and hopes through the instrumentality of this improvement, the profession may be largely benefitted.

For Rights, Office Licences, or information, apply to or address

M. LEVETT, Dentist,

No. 12 Waverly Place, near Broadway,
NEW YORK.

☞ Office Licences from $25 to $50, according to location.

JONES, WHITE & McCURDY,

DENTAL DEPOTS,

528 ARCH STREET, PHILADELPHIA,
335 BROADWAY, NEW YORK,
16 TREMONT ROW, BOSTON.

DENTAL LABORATORY,

BRIDGEPORT, CT.,

FOR MECHANICAL DENTISTRY

AND THE MANUFACTURE OF

PORCELAIN TEETH AND BLOCKS,

D. H. PORTER.

CHEAP PRINTING OFFICE,
138 NASSAU STREET,
COR. BEEKMAN STREET,
NEW YORK

Grossman & Son,
BOOK, WOOD-CUT, CARD,
Pamphlet, Circular
AND JOB
PRINTERS
and
ENGRAVERS.

Sutton & Raynor's Advertising Sheet.

609 BROADWAY,] JULY 1, 1858. [NEW YORK.

DENTISTS' MATERIALS.

The pressure of an increasing business has obliged us to add to our premises the adjoining room, heretofore occupied by Messrs. Jones, White & Co., by which extension we are enabled to offer increased facilities to our customers, in the selection of Teeth or other materials, and affording us room to display an increased variety of stock generally.

On presenting our thanks to the Profession for favors extended to us, by which our business, now over four years established, has been kept steadily on the increase, we pledge ourselves to sustain that reputation for reliability and honorable dealing to which we owe our success, and to continue, as heretofore, to conduct our business with constant reference to the wants and interests of our customers.

All orders, by mail, express or otherwise, with which we may be favored, will be filled promptly, and with care and discrimination.

TEETH.—Our gratifying success in introducing ORUM & ARMSTRONG'S NEW TEETH, (the sales of which have quadrupled in as many months,) has encouraged us to make arrangements for a complete stock, to which such constant additions will be made as will enable us to compete with any other stock of Teeth in New York.

◆

BLOCK TEETH.—Manufacturing these on our own premises, we can always, at reasonable notice, fill orders for full or partial sets, and will generally guarantee satisfaction.

BODY, AND TOOTH OR GUM ENAMEL, of the best quality, always for sale.

MATERIALS FOR FILLING TEETH.—We shall be able to

supply all demands for any of the following materials, and will obtain, in addition, any manufacturer's Foil which our customers may order:—

Abbey's Fine Gold Foil.
Hodson's Premium Gold Foil.
Abbey's Tin Foil.
Griswold's Tin Foil.
Precipitated Silver.

Watts' Crystal Gold Foil.
" Soft (non-adhesive) Gold Foil
" Prepared Crystal Gold.
Townsend's New Amalgam.
Hill's Stopping.

Bevin's Gutta Percha Stopping.

GOLD PLATE AND SOLDERS.—The reputation of our 18 and 20 carat Plate, for uniformity and standard fineness, will not be allowed to diminish. Our Gold Solders have been highly commended; we make 12, 14, 16, and 18 carat.

◆

PLATINA PLATE.—We are constantly receiving from Europe the best quality of Plate and Wire, which we are selling for cash at the lowest market price, receiving clippings at $5 per ounce.

MATERIALS FOR CONTINUOUS-GUM WORK.—Body and Gum Enamel, from the different makers, always in store.

Also, Furnaces, Muffles, Slides, Asbestos, Silex, &c.

◆

CORUNDUM WHEELS AND FILES.—We have lately opened a new consignment of these indispensable articles, received from Ash & Sons, of London. The reputation of the English Corundum stands above all others. The prices correspond, size for size, to the American wheels.

INSTRUMENTS.

This department of our business is in the hands of workmen who have had upwards of 16 years' experience in every branch of it, and we can therefore offer our Instruments to the Profession, with the guarantee that the materials and workmanship shall, in every instance, be of Superior Quality.

FORCEPS, TURNKEYS, ELEVATORS, PUNCHES, HOOKS, SCREWS AND SCALING INSTRUMENTS, of the most approved patterns.

609 Broadway, New York.

PLUGGING INSTRUMENTS.—We continue to supply serrated pluggers for Crystal Gold and Adhesive Foil, after the patterns used by the most successful Operators.

◆

EXCAVATORS, BURRS, DRILLS, &c.—We have good workmen on this branch, and can furnish a superior article. A new method of tempering, lately introduced, has proved to be a decided improvement, and reliable.

LANCETS AND BURNISHERS, of all shapes and sizes.

PLATE-PUNCHES, SHEARS, straight and curved, CLASP-BENDERS, CIRCULAR SAWS, and BURRS FOR LATHES, all made from the best stock.

◆

INSTRUMENT CASES

Fitted up with any selection of Instruments, at the option of the purchaser. Rosewood or Mahogany Cases of any style or size promptly furnished.

Lately received, a fresh invoice of the

FRENCH BIBULOUS PAPER.

The remarkable absorbent qualities of this paper, render it a superior article for drying cavities preparatory to filling. Price, per bundle (1000 sheets), $5.00; per quire, 18 cents.

SPITTOON FUNNELS, of purple glass; a new stock, comprising a variety of shapes and sizes, and stronger than ordinary, just received from the factory.

Teeth on Vulcanite-Rubber Base.

We will have cases put up by this method, for Dentists, at a charge of $7.00; or *unpolished*, for $5.00.

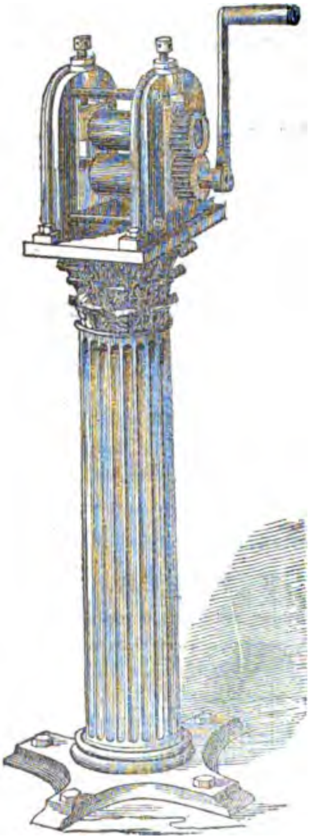
☞ Send a small plaster model, with the Teeth arranged on wax, on a gutta percha or thick lead plate. Wax to be trimmed to fullness required for gum. Avoid disturbing the Teeth in packing.

◆

MECHANICAL WORK of any description made up at reasonable charges.

609 Broadway, New York.

[*See next page.*



ROLLING MILLS,

WITH

Hardened Cast-Steel Rolls,

FROM

BLAKE & JOHNSON, WATERBURY, CONNECTICUT.

The Rolls made at these works are fast superseding all others, their durability and extra finish invariably obtaining for them the preference.

They are warranted for any length of time, and any defects will always be readily corrected.

Having in present use one of their $170 Rolls, we can readily recommend them, without the least reservation.

Orders received.

PRICES:

2½ inch width	$25	Geared, $5 extra.
3 " "	30	
3½ " "	35	
4 " "	40	

Iron Column, $6 to $10.

WORKS ON DENTISTRY.—Any Dental Publications, Periodicals, Account Books for Operations, &c., furnished at publisher's prices.

TOOTH POWDER JARS AND BOXES.

A great variety of Glass, Porcelain, Britannia Metal, Wood or Paper. Labels of every style furnished to order. Tooth Powder of every quality, from 50 cts. to $1.25 per pound.

MECHANICAL TOOLS AND APPARATUS.—Forges, Furnaces, Rolling Mills, Ingot Moulds, Lathes, Vapor Blow-pipes, Mouth Pipes, Impression Cups, Moulding Flasks, Melting Bowls, Swedge Metals, (single or mixed,) Plaster of Paris, Asbestos, Silex, Polishing Powders, Rouge, Pattern Tin, &c., &c,

609 BROADWAY, NEW YORK.

DENTAL OFFICE

TO RENT.

The Advertiser will rent his Office,
Reception Room and Laboratory
furnished or will

SELL THE SAME;

No Bonus asked, for a

FIRST CLASS PRACTICE.

To a Gentleman of

HIGH

Professional Attainments.

For particulars address DENTAL SURGEON, care of the

Editors N. Y. DENTAL JOURNAL,
13 Bible House,
NEW YORK.

The
New York
Dental Journal

Will be issued quarterly, commencing July 1st, 1858. Subscription price two dollars *in advance.* Each number will contain sixty four pages of matter, original and selected.

Communications for the second number are respectfully solicited from the Profession; They must be sent in by September 1st.

A few pages of Advertisments will

BE RECEIVED.

TERMS AS FOLLOWS:

For one page, one year,..............	$25,00
“ ½ “ “ “	15,00
“ ¼ “ “ “	10,00

And for shorter periods in proportion.

All communicatious, subscriptions and business notes of any kind must be addressed to

THE
“NEW YORK
Dental Journal,”
No. 13 *Bible House, Astor Place, New York.*

Vol. 1. **No. 2.**

THE
NEW YORK
DENTAL JOURNAL.

EDITED BY

FRANK H. NORTON & GEO. H. PERINE;

OCTOBER, 1858.

NEW YORK:
GEO. H. PERINE, PUBLISHER & PROPRIETOR,
OFFICE No. 55 *East* 19*th Street.*
LONDON,
N. TRUBNER.

1858.

GROSSMAN & SON, Printers, 138 Nassau Street, N. Y.

CONTENTS.

PAGE

WESTCOTT.—How the Teeth are detroyed. Baneful effects of Saleratus and Cream of Tartar upon the Teeth,........ 69
KINGSLEY.—Irregularity of the Teeth,.................... 81
BIBLIOTHECA ODONTALOGICA,—Continued,.................... 87
Universal Fee Bill,.................................... 89
Filling Teeth,—(By G. H. P.,).......................... 91
Letter from Buenos Ayres,—(By W. S. F., M. D.,)......... 92
ECCLESTON.—On the Manufacture of Teeth,................. 96
Dental State of the British Army and Navy,.............. 98
Adjustment of Clasps,—(By Dr. F. H. C.,)............... 100
American Dental Convention,—Report of Proceedings,.... 101
New York Dental Association, Minutes and Discussions,... 129
Editorials and Cuttings,............................... 132

SPECIAL NOTICE.

CHEVALIER'S INSTRUMENTS.

DISCOUNT.

I have heretofore adhered to the rule of making no Discount to any but the trade, but being convinced of certain practices among most of the dealers which had a tendency to increase my wholesale at the expense of my retail trade, I have determined from this date to make the following discount to Dentists,

VIZ:

On all purchases made at my store for cash, or orders by mail or otherwise inclosing the cash, ten per cent on all sums from ten to seventy-five dollars. From seventy-five to two hundred, twelve per cent. discount; and one per cent. additional on every fifty dollars, up to five hundred.

NO DISCOUNT ON GOLD FOIL, PLATE, OR PLATINA.

"Always send money enough to pay for what you order, and the surplus, if any, will be returned in specie with the goods."

This discount of ten per cent, reduces the price of my celebrated Fifteen Dollar Dental Lathes to Thirteen Dollars and Fifty Cents. Forty Dollar Operating Chairs to Thirty-Six Dollars. Finest Octagon Crocus polished Forceps, from Two Dollars to One Dollar and Eighty Cents; and in that proportion through my entire Catalogue, when the amount exceeds Ten Dollars as before mentioned, and still cheaper when over Seventy-Five.

MY ILLUSTRATED CATALOGUE, which will be found an excellent guide in making out orders, will be forwarded gratis, on receipt of address.

The Expresses afford facilities for the transmission of goods to the remotest towns in the States and the Canadas, and as the expense on small packages is but a trifle more for a thousand than for ten or twenty miles, Dentists are sure to do better by sending their orders, no matter how small, direct to me, than by purchasing from pedlers.

The assistance of my two Sons, whom I have associated with me, in consequence of my increasing business, will ensure a continuance of the prompt execution of all orders with which my friends may favor me.

JOHN D. CHEVALIER.
Manufacturer of Dental Instruments.
Ware Rooms, 360 Broadway, New York.

B. W. FRANKLIN & SON,

DENTAL LABORATORY,

57 BOND STREET,

NEAR BOWERY, NEW YORK,

FOR MAKING CONTINUOUS GUM WORK

FOR THE DENTAL PROFESSION.

I am authorised by the Patentee, Dr. John Allen, to say, those wishing to introduce Continuous Gum Work in their practice, can do so, and no advantage will be taken until a final decision is had in the United States Courts, after which, if the decision is in his favor, he will expect a reasonable price for Office Rights, or a discontinuance of the making of this kind of work.

The following directions will enable all to understand what is required in order that the work be done with the least delay :—

Those residing out of the city, can raise their plates of Platina slitting the front of the plate and lapping it over and solder with pure Gold for greater strength, leaving the edge of the plate one sixteenth of an inch wider than is required when finished, for a rim which is to be turned over after baking the first coat of body. With this exception, the plate is swaged and fitted the same as Gold or Silver plates; after the plate is corrected in the mouth, arrange Continuous Gum Teeth to wax on the plate the same as plain teeth on Gold or Silver; and if any restoration of the face is intended, build wax on the plate over the fangs of the Teeth, until the desired expression is obtained, then let the cutting edges of the Teeth into a batter of plaster to prevent displacement, and the case can be forwarded per Express or otherwise and finished as well as if done in your own Laboratory.

OUR LIST OF PRICES.

For Cases from Impressions, per case,........................	$20 00
" Show Pieces, "	15 00
When Plate is raised and Teeth fitted, per case,.............	9 00
" " " and baked,...........	7 00
When ready for Body aud Gum, per case,....................	6 00
For Continuous Gum Blocks, per Tooth,.....................	75
" Baking when Dentists apply Body and Gum,............	2 00

The above prices include all materials.

Our warrantee extends only to the mechanical execution of the work, and not to its adaptation to the mouth.

OUR PRICES ARE FOR DOING THE WORK ONCE.

Alterations or modifications thereafter will be charged for.

Terms: Cash on delivery.

B. W. FRANKLIN & SON,

NO. 57 BOND STREET,

Near Bowery, NEW YORK.

AN ASSOCIATE WANTED.

A young first class operator who has been in the practice of **Dental Surgery** about ten years, desires to form an association with an operator of the first standing with good practice. With one who has a large and increasing practice in any of the Eastern or Western Cities who desires an assistant or partner, he would be pleased to correspond with a view to further negociations. The advertiser for a few years past has been practising in Mass., and from any of the citizens where he resides he can procure certificates of successful practice and good attainments, and for a number of years he has had the professional care of two or three young ladies' boarding schools among the first in the country.

For particulars address or apply to

Dr. G. H. PERINE,
No. 55 *East* 19*th St.*

Or The N. Y. Dental Journal,
No. 13 *Bible House, Astor Place, N. Y.*

JOHN BIDDLE,

MANUFACTURER OF

DENTAL INSTRUMENTS

OF EVERY DESCRIPTION,

No. 63 Elizabeth Street, corner of Hester,

NEW YORK.

Instruments Repaired in the best manner and at the

SHORTEST NOTICE.

KEARSING'S

DENTAL DEPOT,

No. 189 Twelfth Street,

North East corner of BROADWAY,

NEW YORK.

THE
DENTAL REPORTER,
AND
INDEPENDENT JOURNAL:

Published quarterly. Devoted to dental progress and improvement in the manufacture and use of Instruments and Materials.

EDITED AND PUBLISHED BY

John T. Toland, *Cincinnati, Ohio.*

TERMS.—One copy, one year,	25
Five copies " " to one address,	$1,00
Thirty-five " " " "	5,00
One hundred, " " " "	15,00

TERMS OF ADVERTISING.

One page for one year	$40,00
Half page, for one year,	25,00
One fourth, for one year,	15,00
One eighth, for one year,	10,00

All communications must be directed to JNO. T. TOLAND, 38 West Fourth st., Cincinnatti, Ohio.

JONES, WHITE & McCURDY,

DENTAL DEPOTS,

528 ARCH STREET, PHILADELPHIA,
335 BROADWAY, NEW YORK,
16 TREMONT ROW, BOSTON.

CROWELL'S

TEETH MANUFACTORY

AND

DENTAL DEPOT,

No. 87 BLEECKER STREET,

(Near, and a few doors west of Broadway,)

New York.

A good assortment of shades and sizes of Teeth, at the following reduced prices :

Gum Teeth,	**15 cents.**
Plain Plate,	**8 “**
Continuous Gum or Allen's, do.	**8 “**
Blocks or Sections for Rubber, or cast work,	**20 “**
Gum Teeth, “ “	**15 “**

The undersigned embraces this opportunity to thank the Profession for the very liberal patronage always extended to him, and would ask for the above concern a continuance of the same

J. M. CROWELL.

Refers to the following Dentists, who use teeth made by him :

Drs. ALLEN,
“ AMBLER,
“ ANDERSON,
“ BARLOW,
“ BEARDSLEY,
“ BROWN.
“ BURRAS,
Drs. CLARK,
“ CLAY,
“ DALRYMPLE,
“ DODGE,
“ DURKIN,
“ DWINELLE,
“ GOODELL,
Drs. GUNNING,
“ HASSELL,
“ HERRIOTT,
“ JARVIS,
“ KEYS,
“ KINGSLEY,
“ LAROCHE,
Drs. LEFLER.
“ LEVETT,
“ LORD,
“ McILROY,
“ MAIN,
“ PARMLY,
“ PUTNAM,
Dr. ROOT, &c., &c.

The New York Dental Journal

Is Issued Quarterly.

Subscription price two dollars *per annum in advance.* Each number contains sixty four pages of matter, original and selected.

A few pages of Advertisments will BE RECEIVED.

TERMS AS FOLLOWS:

For one page,	one	year,	....	$25,00
" ½	"	"	"	15,00
" ¼	"	"	"	10,00

And for shorter periods in proportion.

All communications, subscriptions and business notes of any kind must be addressed to

THE
"NEW YORK
Dental Journal,"
No. 55 *East* 19*th Street, New York.*

Vol. 2. No. 1.

THE NEW-YORK DENTAL JOURNAL,

EDITED BY

FRANK H. NORTON & GEO. H. PERINE.

JANUARY, 1859.

NEW-YORK,
GEO. H. PERINE, PUBLISHER & PROPRIETOR,
OFFICE, No. 55 East 10th Street.
LONDON,
TRÜBNER & CO.

1859.

C. C. SHELLEY, Art Book and Job Printer, 68 Barclay Street, cor. of Greenwich, N. Y.

CONTENTS.

PAGE.

Glance at the History and Progress of Dental Science, (Continued,) 1

Sketch of the Life of Joseph Fox, M.R.C.S. 5

On certain conditions of Dental Tissues. By JOHN TOMES. (From the Quarterly Journal of Microscopic Science. 7

Improvements in Artificial Dentures. By DR. B. W. FRANKLIN, (with cuts.) 16

Fourth Annual Meeting of the American Dental Convention. (Report concluded.) 21

Improvement in Teeth, for continuous Gum Work. By JOHN M. CROWELL, (with cuts.) 34

Bibliotheca Odontalogica. (B.——C.) 35

Hydrostatic Blow-Pipe, (with cut.) 37

The London Dental Societies and their Origin 38

Deformity occasioned by Contraction of the Arch of the Superior Maxillary, and Irregularity of the Teeth, successfully treated. By DR. W. DALRYMPLE. with cuts (From the American Journal of Dental Science,) .. 41

On the development and structure of the Teeth of mammifera. By DR. ADOLPH HANNOVER, of Copenhagen. (Translated by T. WHARTON JONES, F.R.S.) 46

Editorials and Cuttings 59

SPECIAL NOTICE.

CHEVALIER'S INSTRUMENTS.

DISCOUNT.

I have heretofore adhered to the rule of making no Discount to any but the trade, but being convinced of certain practices among most of the dealers which had a tendency to increase my wholesale at the expence of my retail trade, I have determined from this date to make the following discount to Dentists,

VIZ:

On all purchases made at my store for cash, or orders by mail or otherwise inclosing the cash, ten per cent. on all sums from ten to seventy-five dollars. From seventy-five to two hundred, twelve per cent. discount; and one per cent. additional on every fifty dollars, up to five hundred.

NO DISCOUNT ON GOLD FOIL, PLATE, OR PLATINA.

" Always send money enough to pay for what you order, and the surplus, if any, will be returned in specie with the goods."

This discount of ten per cent. reduces the price of my celebrated Fifteen Dollar Dental Lathes to Thirteen Dollars and Fifty Cents. Forty Dollar Operating Chairs to Thirty-Six Dollars. Finest Octagon Crocus polished Forceps, from Two Dollars to One Dollar and Eighty Cents; and in that proportion through my entire Catalogue, when the amount exceeds Ten Dollars as before mentioned, and still cheaper when over Seventy-Five.

MY ILLUSTRATED CATALOGUE, which will be found an excellent guide in making out orders, will be forwarded gratis, on receipt of address.

The Expresses afford facilities for the transmission of goods to the remotest towns in the States and the Canadas, and as the expense on small packages is but a trifle more for a thousand than for ten or twenty miles, Dentists are sure to do better by sending their orders, no matter how small, direct to me, than by purchasing from pedlers.

The assistance of my two Sons, whom I have associated with me, in consequence of my increasing business, will insure a continuance of the prompt execution of all orders with which my friends may favor me.

JOHN D. CHEVALIER,
Manufacturer of Dental Instruments,
Ware Rooms, 360 Broadway, New-York.

B. W. FRANKLIN & SON,

DENTAL LABORATORY,

57 BOND STREET,

Near Bowery, **NEW-YORK,**

FOR MAKING CONTINUOUS GUM WORK

FOR THE DENTAL PROFESSION.

I am authorised by the Patentee, Dr. John Allen, to say, those wishing to introduce Continuous Gum Work in their practice, can do so, and no advantage will be taken until a final decision is had in the United States Courts, after which, if the decision is in his favor, he will expect a reasonable price for Office Rights, or a discontinuance of the making of this kind of work.

The following directions will enable all to understand what is required in order that the work be done with the least delay :—

Those residing out of the city, can raise their plates of Platina slitting the front of the plate and lapping it over and solder with pure Gold for greater strength, leaving the edge of the plate one-sixteenth of an inch wider than is required when finished, for a rim which is to be turned over after baking the first coat of body. With this exception the plate is swaged and fitted the same as Gold or Silver plates ; after the plate is corrected in the mouth, arrange Continuous Gum Teeth to wax on the plate the same as plain teeth on Gold or Silver ; and if any restoration of the face is intended, build wax on the plate over the fangs of the Teeth, until the desired expression is obtained, then let the cutting edges of the Teeth into a batter of plaster to prevent displacement, and the case can be forwarded per Express or otherwise and finished as well as if done in your own Laboratory.

OUR LIST OF PRICES.

For Cases from Impressions, per case,	$20 00
For Show Pieces, "	15 00
When Plate is raised and Teeth fitted, per case,	9 00
" " " and baked,	7 00
When ready for Body and Gum, per case,	6 00
For Continuous Gum Blocks, per Tooth,	75
For Baking when Dentists apply Body and Gum,	2 00

The above prices include all materials.

Our warrantee extends only to the mechanical execution of the work, and not to its adaptation to the mouth.

OUR PRICES ARE FOR DOING THE WORK ONCE.

Alterations or modifications thereafter will be charged for.

Terms : Cash on delivery.

B. W. FRANKLIN & SON,

No. 57 BOND STREET,

Near Bowery, **NEW YORK.**

AN ASSOCIATE WANTED.

A young first class operator who has been in the practice of **Dental Surgery** about ten years, desires to form an association with an operator of the first standing with good practice. With one who has a large and increasing practice in any of the Eastern or Western Cities who desires an assistant or partner, he would be pleased to correspond with a view to further negotiations. The advertiser for a few years past has been practising in Mass., and from any of the citizens where he resides he can procure certificates of successful practice and good attainments, and for a number of years he has had the professional care of two or three young ladies' boarding schools, among the first in the country.

For particulars address or apply to

Dr. G. H. PERINE,
No. 55 *East* 19*th St.*

JOHN BIDDLE,

MANUFACTURER OF

DENTAL INSTRUMENTS

OF EVERY DESCRIPTION,

No. 63 Elizabeth Street, cor. of Hester,

NEW-YORK.

INSTRUMENTS REPAIRED

IN THE BEST MANNER AND AT THE

SHORTEST NOTICE.

KEARSING'S

DENTAL DEPOT

No. 189 Twelfth Street,

North East corner of Broadway

NEW-YORK.

THE

DENTAL REPORTER,

AND

INDEPENDENT JOURNAL:

Published quarterly. Devoted to dental progress and improvement in the manufacture and use of Instruments and Materials.

EDITED AND PUBLISHED BY

John T. Toland, Cincinnati, Ohio.

TERMS—One copy, one year,			$0 25
Five copies,	"	*to one address,*	1 00
Thirty-Five,	"	" "	5 00
One Hundred,	"	" "	15 00

Terms of Advertising.

One page, for one year,		$40 00
Half page,	"	25 00
One fourth,	"	15 00
One eighth,	"	10 00

All communications must be directed to JNO. T. TOLAND, 38 West Fourth Street, Cincinnati, Ohio.

JONES, WHITE & McCURDY,

DENTAL DEPOTS,

528 ARCH STREET, PHILADELPHIA.
335 BROADWAY, NEW-YORK.
16 TREMONT ROW, BOSTON.

CROWELL'S

TEETH MANUFACTORY,

AND

DENTAL

DEPOT,

No. 87 Bleecker Street,

(Near, and a few doors west of Broadway,)

New-York.

A good assortment of shades and sizes of Teeth, at the following reduced prices:

Gum Teeth,	**15**	**cents.**
Plain Plate,	**8**	"
Continuous Gum or Allen's do.	**8**	"
Blocks or Sections for Rubber, or Cast Work,	**20**	"
Gum Teeth,	**15**	"

The undersigned embraces this opportunity to thank the Profession for the very liberal patronage always extended to him, and would ask for the above concern a continuance of the same.

J. M. Crowell.

Refers to the following Dentists, who use teeth made by him,

Drs. ALLEN,
" AMBLER,
" ANDERSON,
" BARLOW,
" BEARDSLEY,
" BROWN,
" BURRAS,

Drs. CLARK,
" CLAY,
" DALRYMPLE
" DODGE,
" DURKIN,
" DWINELLE,
" GOODELL,

Drs. GUNNING,
" HASSELL,
" HERRIOTT,
" JARVIS,
" KEYS,
" KINGSLEY,
" LAROCHE,

Drs. LEFLER,
" LEVETT,
" LORD,
" McILROY.
" MAIN,
" PARMLY,
" PUTNAM,

Dr. ROOT, &c., &c.

CONTENTS.

PAGE
Introductory Address before the Pennsylvania Dental College. By Prof. J. H. McQuellen 67
A Glance at the History and Progress of Dental Science, from the earliest ages to the present time, (Continued) 78
Bibliotheca Odontalogica. D 81
Minutes and Discussions of the Indiana State Dental Convention 83
On the Development and Structure of the Teeth of Mammifera. By Dr. Adolph Hannover, of Copenhagen. (Translated by T. Wharton Jones, F.R.S.) Part II. Histology of the Teeth of the Mammifera. (Continued.). 108
On the Treatment of Particular Classes of Irregularities. By Dr. Norman W. Kingsley, N. Y. (With Cuts.) 117
Cases of Irregularity successfully treated. By Dr. W. Dalrymple, of New York. (With Cuts.) 121
Editorials and Cuttings 124

PATENT VULCANITE

DENTAL AGENCY,

No. 640 BROADWAY,

NEW-YORK.

Entrance on Bleecker Street.

This Agency is established for the sale of Office Rights, Apparatus, and Materials used for the

Vulcanite Base for Artificial Teeth.

Price of Office Rights, including Heaters,........................$50 00

A tariff of one dollar on each full case, and fifty cents on all cases of one two, or three teeth, to be paid by Licensees quarterly.

Those wishing their work Vulcanized at the Agency, can depend upon our

Promptness, Fidelity and Reasonable Charges,

We have every facility for doing the

WORK IN THE BEST MANNER.

The character of our work is acknowledged to be superior and the results

UNIFORM AND SATISFACTORY.

Those wishing to test the work can set up their

TEETH IN WAX

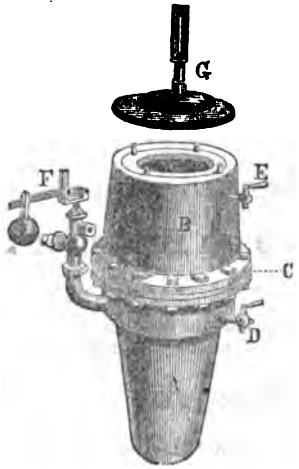
On a thin

PLASTER MODEL OF THE MOUTH,

As they wish the case to be when finished, and send to the Agency, it will be

FURNISHED. PROMPTLY & RETURNED AS DIRECTED.

PORTABLE HEATER
FOR
VULCANIZING THE WORK.



This cut is a representation of our Portable Heater for Vulcanizing the Work; it will hold five cases at a time; it is small, compact, and efficient, and not liable to derangement; can be used on any common office stove that is open at the top. A contains the water, B steam chamber, E steam faucet, D water faucet, F safety valve, G cover and thermometer, C perforated floor or separation between the boiler and steam chamber.

N. B—Suits have already been commenced against L. E. Christopher & Co., late of No. 5 Bond Street, New York, and A. E. L. Roberts & Co., No. 5 and 55 Bond Street, for infringements upon the Patents of Nelson Goodyear and Charles Goodyear, in the manufacture of what they call

CORALITE,

The right to use said patentd processes for Plates and Gums for Artificial Teeth, being vested in the American House Rubber Company and their Licensees.

All persons who may persist in violating said Patents, will be subjected to similar proceedings.

All orders for Office Rights, Apparatus and Materials, &c., should be made to the undersigned.

B. W. FRANKLIN,
Agent, No. 640 Broadway, New-York.

FOR SALE.

A very beautiful Dental Instrument Secretary (Rosewood), Spittoon and Etagere. Can be seen at the New-York Dental Journal Office,

640 Broadway, cor. Bleecker St., N. Y.

SPECIAL NOTICE.

CHEVALIER'S INSTRUMENTS.

DISCOUNT.

I have heretofore adhered to the rule of making no Discount to any but the trade, but being convinced of certain practices among most of the dealers which had a tendency to increase my wholesale at the expense of my retail trade, I have determined from this date to make the following discount to Dentists,

VIZ:

On all purchases made at my Store for cash, or orders by mail or otherwise inclosing the cash, ten per cent. on all sums from ten to seventy-five dollars.—From seventy-five to two hundred, twenty per cent. discount; and one per cent. additional on every fifty dollars, up to five hundred.

NO DISCOUNT ON GOLD COIN, PLATE, OR PLATINA.

"Always send money enough to pay for what you order, and the surplus, if any, will be returned in specie with the goods."

The discount of ten per cent. reduces the price of my celebrated Fifteen Dollar Dental Lathes to Thirteen Dollars and Fifty Cents. Forty Dollar Operating Chairs to Thirty Six Dollars. Finest Octagon Crocus polished Forceps, from Two Dollars to One Dollar and Eighty Cents; and in that proportion through my entire Catalogue, when the amount exceeds Ten Dollars as before mentioned, and still cheaper when over Seventy-Five.

MY ILLUSTRATED CATALOGUE, which will be found an excellent guide in making out orders, will be forwarded gratis, on receipt of address.

The Expresses afford facilities for the transmission of goods to the remotest towns in the States and the Canadas, and as the expense on small packages is but a trifle more for a thousand than for ten or twenty miles, Dentists are sure to do better by sending their orders, no matter how small, direct to us, than by purchasing from pedlars.

The assistance of my two Sons, whom I have associated with me, in consequence of my increasing business, will insure a continuance of the prompt execution of all orders with which my friends may favor me.

JOHN D. CHEVALIER,
Manufacturer of Dental Instruments,
Ware Rooms, 360 Broadway, New-York.

FRANKLIN & SPROULL,

(Successors to W. FRANKLIN & SON,)

DENTAL LABORATORY,

FOR

Continuous Gum Work for the Dental Profession,

No. 57 Bond Street,

NEW-YORK.

We are authorized by the Patentee, Dr. John Allen, to say, those wishing to introduce Continuous Gum Work in their practice, can do so, and no advantage will be taken until a final decision is had in the United States Courts, after which, if the decision is in his favor, he will expect a reasonable price for Office Rights, or a discontinuance of the making of this kind of work.

The following directions will enable all to understand what is required in order that the work be done with the least delay:—

Those residing out of the city, can raise their plates of Platina slitting the front of the plate and lapping it over and solder with pure Gold for greater strength, leaving the edge of the plate one-sixteenth of an inch wider than is required when finished, for a rim which is to be turned over after baking the first coat of body. With this exception the plate is swaged and fitted the same as Gold or Silver plates; after the plate is corrected in the mouth, arrange Continuous Gum Teeth to wax on the plate the same as plain teeth on Gold or Silver; and if any restoration of the face is extended, build wax on the plate over the fangs of the Teeth until the desired expression is obtained, then let the cutting edges of the Teeth into a batter of plaster to prevent displacement, and the case can be forwarded per Express or otherwise, and finished as well as if done in your own Laboratory.

OUR LIST OF PRICES:

For Cases from Impressions, per case	$20 00
For Show Pieces, "	15 00
When Plate is raised and Teeth fitted, per case	9 00
" " " and baked	7 00
When ready for Body and Gum, per case	6 00
For Continuous Gum Blocks, per Tooth	75
For Baking when Dentists apply Body and Gum	2 00

The above prices include all materials.

Our warrantee extends only to the mechanical execution of the work, and not to its adaptation to the mouth.

OUR PRICES ARE FOR DOING THE WORK ONCE.

Alterations or modifications thereafter will be charged for.

Terms: Cash on Delivery.

FRANKLIN & SPROULL,

No. 57 BOND STREET,

Near Bowery, **NEW YORK.**

D. H. PORTER'S

DENTAL LABORATORY,

BRIDGEPORT, CONN.

FOR MECHANICAL DENTISTRY,

AND THE MANUFACTURE OF

PORCELAIN TEETH AND BLOCKS.

JOHN BIDDLE,

MANUFACTURER OF

DENTAL INSTRUMENTS

OF EVERY DESCRIPTION,

No. 63 Elizabeth Street, cor. of Hester,

NEW-YORK.

INSTRUMENTS REPAIRED

IN THE BEST MANNER AND

AT THE SHORTEST NOTICE.

KEARSING'S

DENTAL DEPOT,

No. 189 Twelfth Street,

North East corner of Broadway,

NEW-YORK.

SUTTON & RAYNOR,

Manufacturers, Importers & Dealers in

DENTISTS' MATERIALS,

OF EVERY DESCRIPTION,

No. 609 BROADWAY, NEW-YORK.

"Promptness," "Exactness," and "Furnishing the BEST ARTICLE for the price," constitute OUR speciality.

JOHN KLEIN,

Wholesale and Retail Manufacturer of

PORCELAIN TEETH,

Gold and Tin Foil, Gold and Silver Plate, Wire, Spiral Springs, Dental Instruments, etc.

DEPOT, 22 1-2 NORTH EIGHTH STREET, ABOVE MARKET,

PHILADELPHIA, PA.,

Where may be found a general assortment of articles needed for the practice of Dentistry, at reduced prices. ☞ All cash orders promptly attended to.

ASK'S

PATENT DENTAL CHAIR,

IMPROVED JANUARY, 1859.

The seat and arms raise and lower by a crank placed at the back of the Chair. The back seat and arms are carried backwards and forwards by a foot lever.

Price from $40 to $100 each, Table and Crane extra.

The Footstools can be Raised or Lowered. Price from $6 to $12.

MAHOGANY SPITTOONS,

With Marble Tops and Glass Funnels. Price $12 each.

MANUFACTURED AT LYONS, WAYNE CO., N. Y., BY

JAMES H. CASE.

THE

DENTAL REPORTER,

AND

INDEPENDENT JOURNAL:

Published quarterly. Devoted to dental progress and improvement in the manufacture and use of Instruments and Materials.

EDITED AND PTBLISHED BY

John T. Toland, Cincinnati, Ohio.

TERMS—	*One copy, one year*	$0 25
	Five copies, one year, to one address	1 00
	Thirty-Five, " "	5 00
	One Hundred, " "	15 00

Terms of Advertising.

One page, for one year	$40 00
Half page, "	25 00
One fourth, "	15 00
One eighth, "	10 00

All communications must be directed to JNO. T. TOLAND, 38 West Fourth Street, Cincinnati, Ohio.

JONES, WHITE & M CURDY,

DENTAL DEPOTS;

528 ARCH STREET, PHILADELPAIA.
335 BROADWAY, NEW-YORK.
16 TREMOTT ROW, BOSTON.

CROWELL'S

TEETH MANUFACTORY,

AND

DENTAL

DEPOT,

No. 87 Bleecker Street,

(Near, and a few doors west of Broadway,)

New-York.

A good assortment of shades and sizes of Teeth, at the following reduced prices:

Gum Teeth,	**15**	**cents.**
Plain Plate,	**8**	"
Continuous Gum or Allen's do.	**8**	"
Blocks or Sections for Rubber, or Cast Work,	**20**	"
Gum Teeth,	**15**	"

The undersigned embraces this opportunity to thank the Profession for the very liberal patronage always extended to him, and would ask for the above concern a continuance of the same.

J. M. Crowell.

Refers to the following Dentists, who use teeth made by him.

Drs. ALLEN,
" AMBLER,
" ANDERSON,
" BARLOW.
" BEARDSLEY,
" BROWN,
" BURRAS,
Drs. CLARK,
" CLAY,
" DALRYMPLE
" DODGE,
" DURKIN,
" DWINELLE,
" GOODELL,
Drs. GUNNING,
" HASSELL,
" HERRIOTT,
" JARVIS,
" KEYS,
" KINGSLEY,
" LAROCHE,
Drs. LEFLER,
" LEVETT,
" LORD,
" McILROY.
" MAIN,
" PARMLY,
" PUTNAM,
Dr. ROOT, &c., &c.

THE

NEW-YORK

DENTAL JOURNAL

Is Issued Quarterly.

SUBSCRIPTION PRICE.

TWO DOLLARS PER ANNUM,

In advance. Each Number contains

SIXTY-FOUR PAGES OF MATTER,

ORIGINAL AND SELECTED.

A few pages of Advertisements will

BE RECEIVED.

TERMS AS FOLLOWS:

For one page, one year	$25 00
" ½ " " "	15 00
" ¼ " " "	10 00

And for shorter periods in proportion.

All communications, subscriptions and business notes of any kind must be addressed to the

"New-York Dental Journal,"

No. 640 Broadway, New-York.